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PRODUCING REFINING MARKETING

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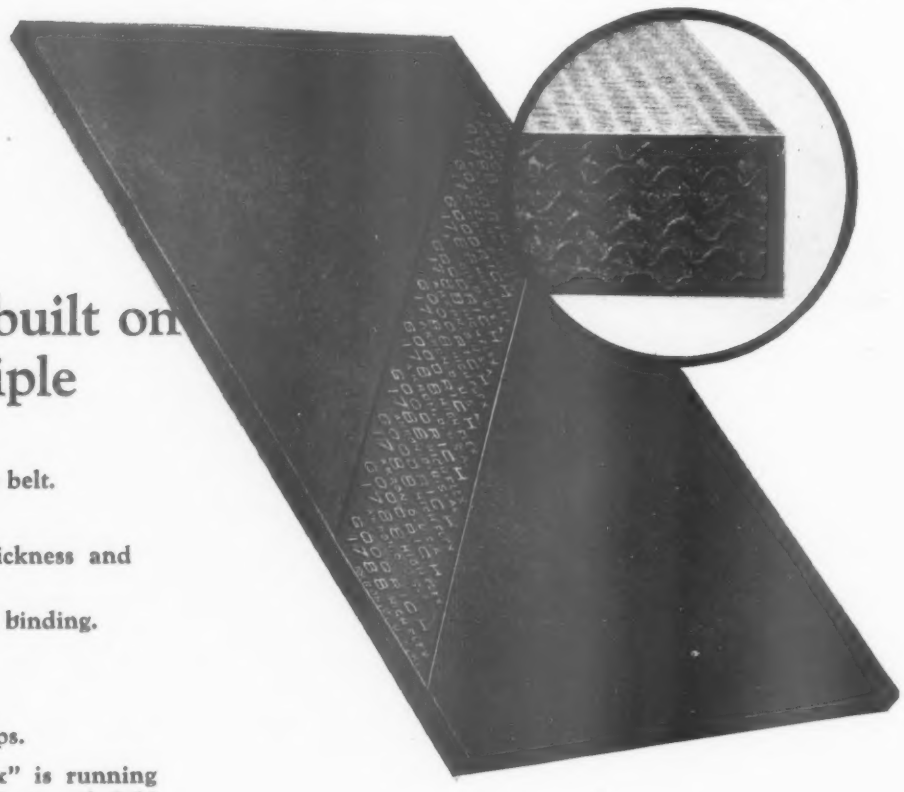

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# Production Reaches New High for 1926

**Highest daily average estimated production week ended May 30, 1925, 2,347,984 bbls. Lowest in 1925, January 3, 1,911,730 bbls.**

## An Increase of 16,507 Bbls. Per Day for Which Old Spindletop and the Panhandle of Texas Are Responsible

By James McIntyre

**Highest daily average estimated light oil production in 1925, week ended January 17, 1,525,220 bbls. Lowest in 1925, July 18, 1,374,173 bbls.**

An increase of 16,507 bbls. in the average daily crude oil production of the United States was recorded last week.

The responsibility for the increase lies largely at the door of the ancient Spindletop area in Southern Texas and in the Texas Panhandle. A number of large wells producing from the deep pay discovered early this year in Spindletop were completed and at the close of the week the production was given as 19,185 bbls. a day. The Fourth of July holiday occasioned a lull in completed work in the Panhandle. It was not last week's completions which brought up the production, but the batch of wells just previously finished. Oklahoma suffered the greatest drop in production falling off a little more than 4,000 bbls. a day.

The production of the United States for the first half of the year, with June estimated was 359,580,771 bbls., an average per day of 1,986,634 bbls. This 6-months' daily average is 66,978 bbls. below the daily average for the week ending July 3.

The production last week was 64,369 bbls. a day higher than for the week ending January 2, and over 76,700 bbls. a day in excess of the daily average in the week ending January 9.

We are producing 85,726 bbls. less than in the same week last year, but the production of the lighter grades of crude has increased 133,012 bbls. per day in the same 12 months.

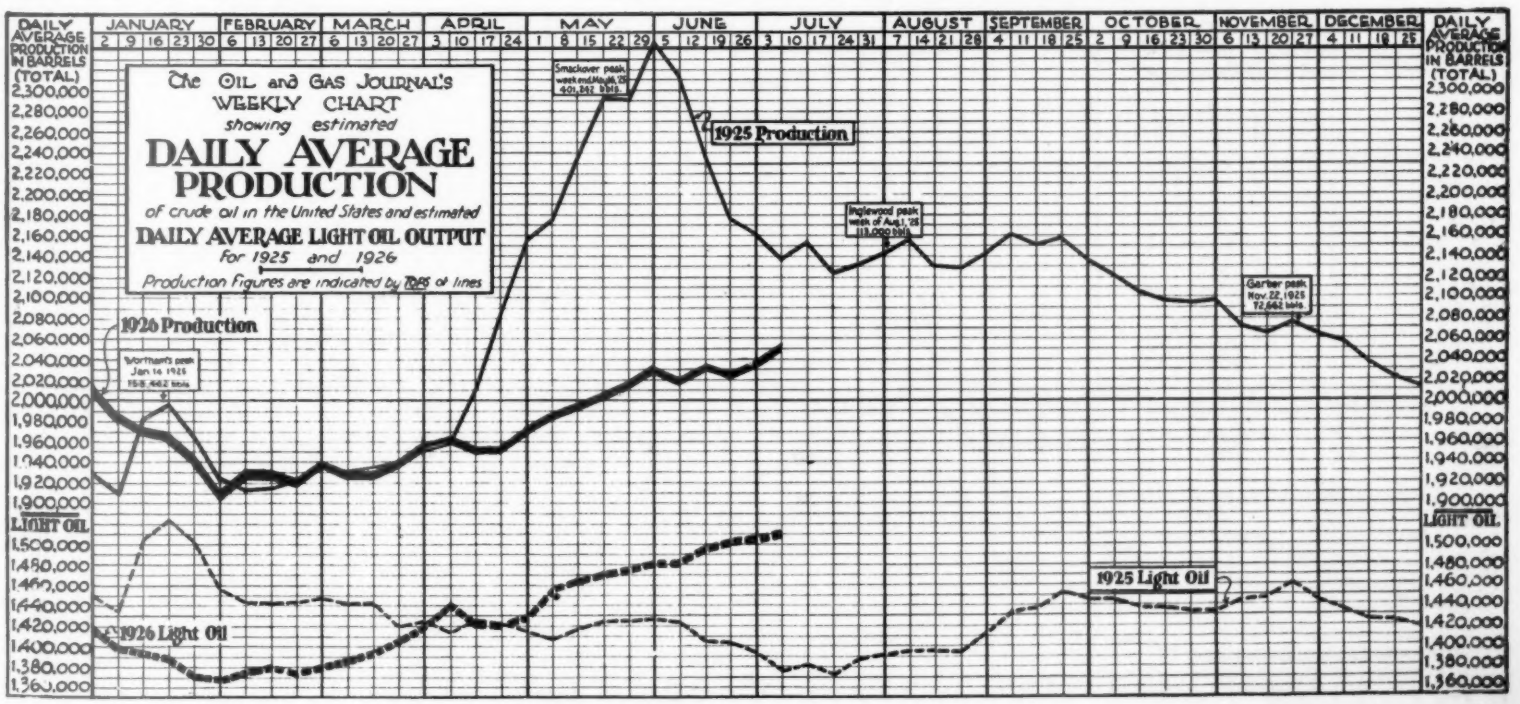
We cannot believe that the production of oil will fall to such a point as to bring the total 1926 output down to 685,000,000 bbls. as has been predicted by an eminent geologist, and which has been given wide publicity. The quantity of 1926 production already above ground and the fact that we are entering the second half of the year with production higher than it has been at any time in the year indicates that an unprecedented slump in crude output—one that would fairly shake the industry—would be necessary to bring production down 75,000,000 bbls. below the record of last year. It would mean a daily average production for the year of 1,876,712 bbls. and in order to get down to that average it might be necessary for production to reach a low level for the year of approximately 1,479,812 bbls. a day. This is based on the estimate of 1,986,634 bbls. per day for the first half and the fact that the second half of the year is starting with a daily average of 2,053,612 bbls.

### PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity crude oil in the United States for week ended July 3, and a comparison with the previous week follows:

| | July 3 | | June 26 | |
|---|---|---|---|---|
| | Light | Heavy | Light | Heavy |
| **Oklahoma—** | | | | |
| Tonkawa | 42,145 | ..... | 43,400 | ..... |
| Burbank | 44,800 | ..... | 44,940 | ..... |
| Other Osage Fields | 34,360 | ..... | 34,420 | ..... |
| Cushing and Shamrock | 21,660 | ..... | 21,720 | ..... |
| Bristow and Eastern Bristow | 29,700 | ..... | 29,560 | ..... |
| Cromwell | 17,420 | ..... | 17,300 | ..... |
| Garber | 34,550 | ..... | 35,900 | ..... |
| Blackwell-Braman | 17,380 | ..... | 17,200 | ..... |
| Davenport | 9,260 | ..... | 9,700 | ..... |
| Wewoka | 29,600 | ..... | 29,900 | ..... |
| Northern M'scellaneous | 111,745 | ..... | 111,690 | ..... |
| Southern Fields | 65,500 | ..... | 66,620 | ..... |
| Total Oklahoma | 458,120 | ..... | 462,350 | ..... |
| North Louisiana | 43,765 | 16,500 | 42,465 | 17,505 |
| **Arkansas—** | | | | |
| Smackover Light | 16,240 | ..... | 16,410 | ..... |
| Smackover Heavy | ..... | 125,195 | ..... | 123,870 |
| Miscellaneous | 23,895 | ..... | 23,820 | ..... |
| Total Arkansas | 40,135 | 125,195 | 40,230 | 123,870 |
| North Central Texas | 174,147 | ..... | 173,760 | ..... |
| Texas Panhandle | 52,835 | ..... | 49,777 | ..... |
| Powell | 29,600 | ..... | 29,900 | ..... |
| Mexia, Currie, Richland, etc. | 15,600 | ..... | 15,760 | ..... |
| Wortham | 8,500 | ..... | 8,540 | ..... |
| Kansas | 109,270 | ..... | 108,050 | ..... |
| Total Mid-Continent Area | 931,972 | 141,695 | 930,832 | 141,375 |
| Gulf Coast | ..... | 107,070 | ..... | 93,980 |
| Southwest Texas | ..... | 38,530 | ..... | 38,953 |
| Eastern | 108,100 | ..... | 108,300 | ..... |
| Rocky Mountain Area | 114,245 | ..... | 113,165 | ..... |
| **California—** | | | | |
| Santa Fe Springs | 48,500 | ..... | 48,000 | ..... |
| Long Beach | 108,000 | ..... | 108,500 | ..... |
| Huntington Beach | 44,500 | ..... | 44,000 | ..... |
| Torrance | 6,000 | 23,000 | 6,100 | 23,400 |
| Dominguez | 21,000 | ..... | 21,000 | ..... |
| Rosecrans | 16,000 | ..... | 16,500 | ..... |
| Inglewood | 28,500 | 21,000 | 28,200 | 20,800 |
| Ventura Avenue | 44,500 | ..... | 43,000 | ..... |
| Remainder of State | 40,800 | 210,200 | 40,800 | 210,200 |
| Total California | 357,800 | 254,200 | 356,100 | 254,400 |
| Total United States | 1,512,117 | 541,495 | 1,508,397 | 528,708 |
| Grand Total | 2,053,612 | | 2,037,105 | |

**Total Increase, 16,507 Bbls.; Light Oil Increase, 3,720 Bbls.**




WHAT AND WHERE TO BUY—PAGES 157-158-159

# Buying Aids Group 3 Gasoline Market

## Purchases by Refiners Whose Own Production Was Not Adequate for Their Needs Stop Declining Market

By Neil Williams

The better tone which developed in gasolines featured the Oklahoma (Group 3) refined market the past week. Natural gasolines also showed some improvement but the weakness of kerosene was augmented by two reductions in tankwagon postings in the territory of the Standard Oil Co. of Indiana. Other products were practically unchanged.

Gasolines were firmer because of an increased domestic demand which materialized during the week. Several refiners, as well as some large jobbers, came into the market just before the Fourth of July holidays with substantial orders for practically immediate shipment, resulting in a generally improved situation.

Chief among the buyers was the Skelly Oil Co., which ordered 2,000,000 gallons of U. S. Motor gasoline from Oklahoma and Kansas refiners. Among other refiners who made fairly large purchases were Marland Refining Co. and White Eagle Oil & Refining Co.

Practically all this gasoline is to be moved within the next week, meaning immediate relief from some of the distress material which has been causing the steady decline in the market since the crude advance in May.

The fact that these refiners had to buy gasoline indicated a particularly favorable condition for the industry as a whole. All these refiners, each having a long string of service stations, apparently were short of gasoline and were forced to the open market to keep up with the rapidly increasing motor consumption.

During the week there also was a noticeable increase in demand from jobbers, who were rushing in last minute orders to cover expected requirements over the Fourth of July. This also added to the generally improved gasoline picture as the inactivity of these buyers in the previous week has resulted in a great deal of uncertainty.

### REFINED MARKET BAROMETER

The greatly increased consumption of gasoline, especially over the Fourth of July holidays, in nearly every section of the country has resulted in firmer markets at virtually all refining centers. This universal strengthening of gasoline was the most important development in refined markets of the country the past week. Trends of other products were little changed. Kerosene was weaker generally, this being reflected in tankwagon reductions in several marketing territories. Distillates were firm during the week due to expected heavy needs for furnace oils next season. Fuel oils on the whole were inactive and soft although at the Atlantic Seaboard refinery markets were maintained by a fairly heavy demand. Lubricating oils, except for some grades, showed improvement.

**Mid-Continent**—Firming of gasoline following the domestic buying spurt featured Mid-Continent refined markets the past week. Natural gasoline tone also improved but demand still slow. Kerosenes off from a half to three-quarters of a cent following tankwagon reductions. Fuel oils and gas oils slightly lower with continuing inactivity. Distillate prices firm with contracts in deadlock. Lubricants active.

**Atlantic Seaboard**—Gasoline continued strong. Consumption greatly increased and domestic and export demand large. Kerosene soft. Fuel oil unchanged. Lubricant sales increased.

**Pennsylvania**—Gasoline demand slow due to unfavorable motoring weather. Kerosenes decline further. Fuel oil weaker as supplies increase. Cylinder stocks off. Wax moved fairly well. Bright stocks scarce but neutrals softer.

**Chicago**—Gasoline demand improved. Prices steadier. Kerosenes hit by tankwagon reductions. Distillates still uncertain but spot prices firm. Gas oil steady. Fuel oil still inactive.

**California**—Gasoline consumption increased and general tone firmer. Naturals unchanged. Lubricants not strong in price but demand better. Fuel oil soft.

**Gulf Coast**—Lubricant prices shaded on export assignments due to slow demand for zero cold test products.

### Domestic Buying

The buying the past week was important because it marked the first real flurry in domestic buying on the spot market in several weeks. It is known there has been a good movement of gasolines but most of this has been on regular orders and has had little outward effect on the open market.

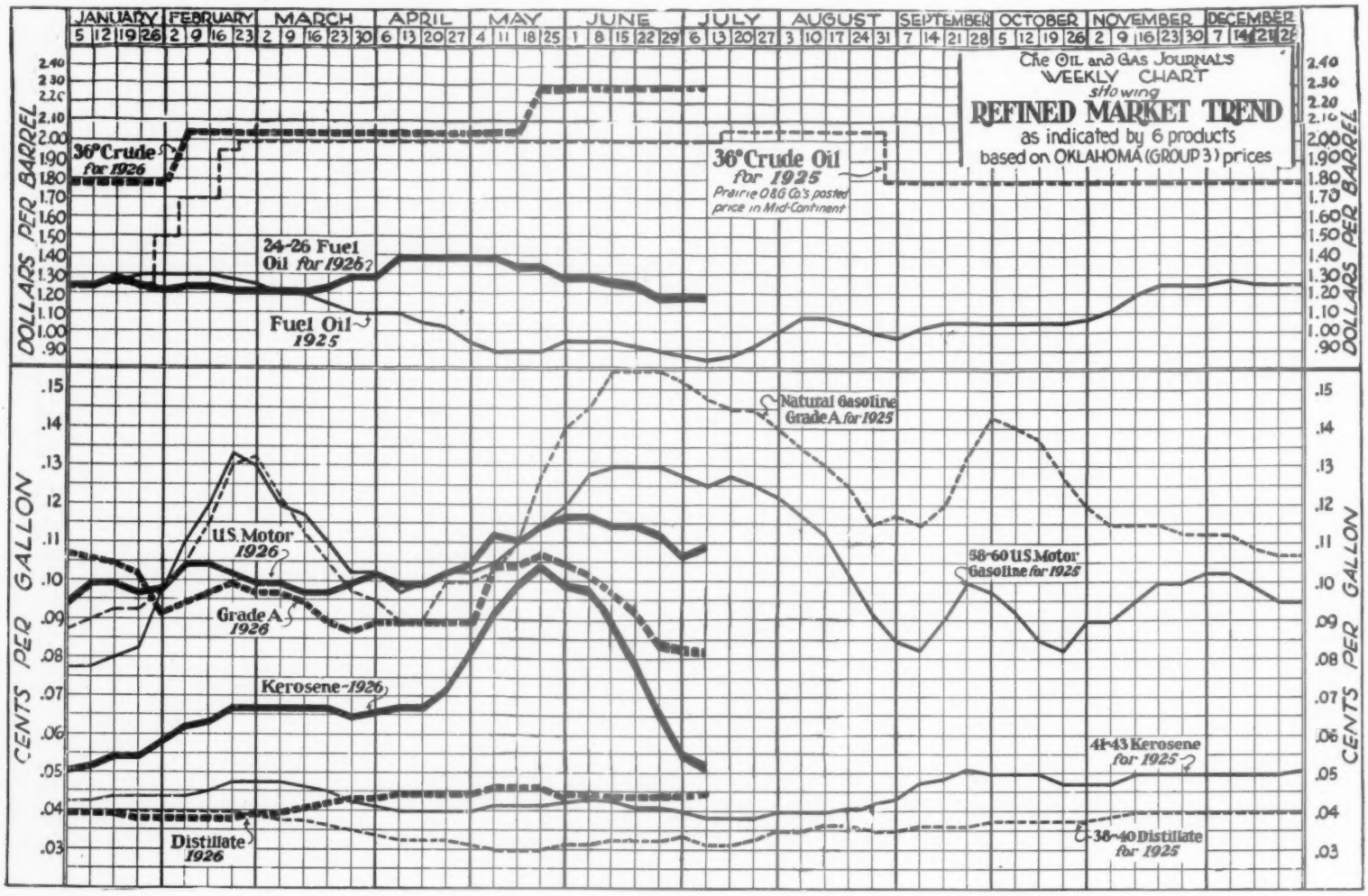
This buying spurt came at an unusually critical time in the Oklahoma gasoline situation as refiners were facing the biggest consumption period of the year with an extremely soft market and apparently nothing in sight to bring about a change in the trend. The position of refiners was anything but favorable. Gasoline stocks were known to be excessively heavy, market quotations were a cent and a half lower than at the same time last year with crude costs approximately 30 cents higher.

The activity the past week by no means was sufficient to insure for Oklahoma refiners a firm market longer than a few days as it only served to remove the real cheap material which was beginning to flood the Mid-Continent market. The gasoline bought was only a small part of the large quantities known to be in the country's storage and not until these stocks are depleted to a far lower level will gasoline markets in any section of the country be safe for any period of time, market students point out.

An important start in this direction was taken during May, according to the latest report of the United States Geological Survey, which showed that approximately 124,000,000 gallons of gasoline were drawn from storage in the country during that month. This development is encouraging although it failed to stop a declining market in May, and if an equal or greater amount was taken out in June the stock situation at the present time is more favorable than recent market developments have indicated.

Oklahoma and Mid-Continent refiners, as indicated by last week's purchases, are

(Continued on Page 133)


JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER
DOLLARS PER BARREL
CENTS PER GALLON
The Oil and Gas Journal's WEEKLY CHART showing REFINED MARKET TREND as indicated by 6 products based on OKLAHOMA (GROUP 3) prices
36° Crude for 1926
36° Crude Oil for 1925
Prairie O&G Co's posted price in Mid-Continent
24-26 Fuel Oil for 1926?
Fuel Oil 1925
Natural Gasoline Grade A for 1925
U.S. Motor 1926
Grade A 1926
58-60 U.S. Motor Gasoline for 1925
Kerosene-1926
41-43 Kerosene for 1925?
Distillate 1926
38-40 Distillate for 1925

# Slight Reduction in Refinery Runs

## Mid-Continent Crude Runs to Stills on July 1, 5,380 Bbls. Less Than on June 1. Low Gasoline Market a Factor

By Nell Williams

Mid-Continent refinery operations showed comparatively little change the past month, according to The Oil and Gas Journal's monthly review. Runs to stills were reduced 5,380 bbls. daily July 1 as compared with June 1, but this represented a drop of approximately 1 per cent, a small change considering the total throughput of 410,070 bbls. on July 1.

In view of the generally unfavorable marketing conditions for refined products during June, a larger decrease was anticipated. Several plants, especially in the North Central Texas area, shut down because of the weak markets but these shutdowns and slight reductions in runs at a number of other refineries were practically offset by several substantial individual increases.

It was on July 1 last year that runs to stills broke all records with a total throughput of 440,350 bbls. This record since has not been equalled and the runs on July 1, this year, were 30,280 bbls. less than those of a year ago. There were nine fewer plants in operation this July 1 than last.

The decrease in runs, although comparatively slight, brought to an end the steady increase since March 1, when the total throughput ws only 365,990 bbls. The turning point came at what market students termed a very critical time in refined markets. A better tone developed in the refined market the past week due to a slightly increased domestic demand for gasoline and refiners admit that a continuation of this firmer position will depend largely on the trend of refinery operations the remainder of July as well as on additional buying.

**MID-CONTINENT REFINERY OPERATIONS**
**Table No. 1**
(Based on plants July 1, 1926, and June 1, 1926)

| | *No. Plants July 1 | Crude Capacity Bbls. | Cracking Capacity Bbls. | Plants Op'g. July 1 | Crude Runs July 1 Bbls. | Plants Op'g. June 1 | Crude Runs June 1 Bbls. | Daily Decrease July 1 Bbls. |
|---|---|---|---|---|---|---|---|---|
| Oklahoma | 56 | 274,800 | 93,550 | 49 | 173,070 | 49 | 182,875 | 9,805 |
| N. Cent. Texas. | 40 | 165,250 | 49,450 | 30 | 84,525 | 32 | 86,525 | 2,000 |
| †Kansas | 22 | 130,700 | 58,600 | 17 | 94,000 | 17 | 93,250 | ‡750 |
| N. Louisiana | 7 | 41,500 | 7,500 | 6 | 37,800 | 6 | 32,750 | ‡5,050 |
| Arkansas | 9 | 31,000 | 12,600 | 9 | 20,675 | 8 | 20,050 | ‡625 |
| Total | 134 | 643,250 | 222,700 | 111 | 410,070 | 113 | 415,450 | 5,380 |

*Does not include plants which have been shut down one year or longer.
†Includes one Missouri plant.
‡Increase.

**Table No. 2**
(Based on plants July 1, 1926, and July 1, 1925)

| | *No. Plants July 1, 1925 | Crude Capacity July 1.'25 (Bbls.) | Plants Op'g. July 1, 1925 | Crude Runs July 1, 1925 | Daily Decrease July 1, 1926 |
|---|---|---|---|---|---|
| Oklahoma | 59 | 273,400 | 52 | 191,700 | 18,630 |
| North Central Texas | 47 | 176,050 | 37 | 96,400 | 11,875 |
| †Kansas | 25 | 124,400 | 21 | 103,400 | 9,400 |
| North Louisiana | 7 | 37,300 | 6 | 31,900 | †5,900 |
| Arkansas | 14 | 35,700 | 9 | 16,950 | †3,725 |
| Total | 152 | 646,850 | 125 | 440,350 | 30,280 |

*Does not include plants which have been shut down one year or longer.
†Includes three Missouri plants.
‡Increase.

A slightly easier tone also was apparent in the general Mid-Continent crude situation July 1 compared with June 1. This, however, was due more to increases in production than to other reasons as the reduction in runs to stills was too small to influence the crude picture one way or the other. On July 1 refiners ran 38.1 per cent of the Mid-Continent production while a month ago 38.6 per cent was being consumed.

Three refining districts in the Mid-Continent, Kansas, North Louisiana and Arkansas, increased runs July 1. North Louisiana refiners boosted their runs 5,050 bbls., while Arkansas refiners showed a gain of only 625 bbls. The Louisiana increase was attributed to the Louisiana Oil & Refining Corp. with a jump of 5,700 bbls. The Kansas increase was 750 bbls.

### Oklahoma Runs Less

Oklahoma refinery runs were reduced 9,805 bbls., while the drop in North Texas was 2,000 bbls. Oklahoma's decline was due principally to the Champlin Refining Co. and the Barnsdall Refineries, Inc., plant at Okmulgee, which was only re-running on July 1. On June 1, this plant ran 4,000 bbls. of crude. Champlin reduced runs 4,000 bbls.

Most all other changes in Oklahoma plant operations were small. The Independent Oil & Gas Co., however, increased runs from 1,200 to 2,500 bbls. This company has just completed the installation of a cracking process and has made other additions so the gain in runs was only in line with the company's general expansion program.

North Texas refinery operations were the most disturbed during the month. Although on July 1 the only two fewer plants were reported operating than on June 1, a number of other plants were not operating the entire month. The majority of the plants which were shut down at times during June did so because of poor markets.

The Oriental Refining Co. plant at Dallas and the Western Oil Corp. at Wichita Falls were the two plants shut down on July 1 which were operating June 1. The latter company started up about June 1 and made a trial run for 10 days after having taken over the plant of the old Sunshine Consolidated Oil Co.

Outside of these plants there were no particular changes in operations July 1 as compared with the previous month. The largest change in runs was by the Texhoma Oil & Refining Co. and that advance amounted to less than 500 bbls.

Kansas operations were practically steady with an increase in runs of only 750 bbls. daily. The Miller Petroleum Co. resumed operations and is running 1,200 bbls. daily. This accounted for the increase as without this plant a reduction of 450 bbls. would have been recorded in Kansas.

**REFINING OPERATIONS IN OKLAHOMA**
(Plants which have been in operation during the past year)

| Name and location— | Daily Capacity | Runs July 1 | Runs June 1 |
|---|---|---|---|
| Anderson-Pritchard, Cyril | 1,500 | 1,000 | 1,000 |
| Barnsdall Refineries, Inc., Barnsdall | 5,000 | 3,500 | 4,000 |
| Barnsdall Refineries, Inc. (Waite Phillips), Okmulgee | 6,000 | Rerun | 4,000 |
| Bell Oil & Gas Co., Grandfield | 3,000 | 1,500 | 1,500 |
| Bolene Refining Co., Enid | 5,000 | 3,600 | 3,600 |
| Cameron Refining Co., Ardmore | 3,900 | 3,000 | 3,000 |
| Canfield Refining Co., Yale | 500 | 150 | 150 |
| Champlin Refining Co., Enid | 16,000 | 8,000 | 13,000 |
| Coleman-Nelson Corp., West Tulsa | 2,000 | Shut Down | Shut Down |
| Continental Oil Co., Sapulpa | 7,000 | 1,500 | 1,500 |
| Cushing Refining & Gasoline Co., Blackwell | 1,500 | 1,200 | 1,200 |
| Cushing Refining & Gasoline Co., Cushing | 2,500 | 1,000 | 1,000 |
| Empire Refineries, Inc., Cushing | 7,000 | 5,000 | 5,000 |
| Empire Refineries, Inc., Okmulgee | 3,000 | 3,000 | 3,000 |
| Empire Refineries, Inc., Ponca City | 6,500 | 6,000 | 6,000 |
| Garber Refining Co. (Omar) | 3,000 | 2,100 | 2,350 |
| Gilmer Oil Co., Ringling | 1,500 | 1,100 | 1,100 |
| Globe Oil & Refining Co., Blackwell | 5,000 | 4,800 | 5,000 |
| Hewitt Refining Co., Hewitt | 1,500 | 700 | 700 |
| Illinois Oil Co., Cushing | 3,000 | 1,000 | 2,000 |
| Imperial Refining Co., Ardmore | 6,000 | 3,550 | 3,575 |
| Independent Oil & Gas Co. (Allied), Okmulgee | 4,000 | 2,500 | 1,200 |
| Interocean Refining Co. (Lorraine), Bristow | 4,000 | 1,800 | 1,800 |
| Lawton Refining Co., Lawton | 1,000 | Shut Down | Shut Down |
| Johnson Oil Refining Co., Cleveland | 5,000 | 4,200 | 4,500 |
| Marland Refining Co., Ponca City | 25,000 | 20,000 | 20,000 |
| Mecca Refining Co., Allen | 1,500 | 100 | 100 |
| Mid-Continent Petroleum Co. (Cosden), West Tulsa | 35,000 | 25,000 | 26,000 |
| *Miller Brothers 101 Ranch, Marland | 100 | 50 | 50 |
| †Oil State Refining Co., Enid | 2,000 | 1,200 | 1,300 |
| Oklahoma Asphalt Co. (Nyanza), Wilson | 3,000 | 600 | 1,300 |
| Okla.-Tex. Refining Co. (Sagamore), Grandfield | 2,000 | Shut Down | Shut Down |
| Peppers Gasoline Co., Covington | 1,000 | 950 | 700 |
| Pierce Oil Corp., Sand Springs | 10,000 | 7,000 | 7,000 |
| Pontotoc Pipe Line & Refining Co., Allen | 800 | 350 | 300 |
| Producers & Refiners Corp., West Tulsa | 7,000 | 4,500 | 4,000 |
| Producers & Refiners Corp., Blackwell | 4,000 | Shut Down | Shut Down |
| Pure Oil Co., Ardmore | 6,500 | 2,000 | 2,000 |
| Pure Oil Co., Cushing | 5,000 | Shut down | Shut Down |
| Pure Oil Co., Muskogee (O. P. & R. Co.) | 2,500 | 2,000 | 2,000 |
| Red Seal Refining Co., Oklahoma City | 2,500 | Shut Down | Shut Down |
| Riley Petroleum Co., Bristow | 800 | 500 | 500 |
| Rock Island Refining & Pipe Line Co., Duncan | 2,500 | 2,270 | 2,100 |
| Roland Oil Co., Bristow | 1,500 | 1,400 | 1,400 |
| Sayre Oil & Refining Co., Sayre | 500 | 100 | 100 |
| Shaffer Oil & Refining Co., Cushing | 10,000 | 10,000 | 10,000 |
| Sun Oil Co., Yale | 3,000 | 2,600 | 2,600 |
| Sinclair Refining Co., Cushing | 6,000 | Shut Down | Shut Down |
| Sinclair Refining Co., Muskogee | 1,000 | 1,000 | 900 |
| The Texas Company, West Tulsa | 11,000 | 11,000 | 10,800 |
| Texas Pacific Coal & Oil Co., Wynnewood | 2,500 | 1,800 | 1,800 |
| Tidal Refining Co., Drumright | 10,000 | 9,000 | 10,000 |
| Transcontinental Oil Co., Boynton | 2,500 | 2,000 | 2,000 |
| Transcontinental Oil Co., Bristow | 6,000 | 4,000 | 4,000 |
| Tonkawa Petroleum Co., Tonkawa | 2,500 | 1,000 | 800 |
| Western Oil Corp., Beckett | 1,500 | 1,000 | 1,000 |
| Yale Oil Corp., Yale | 1,200 | 450 | 500 |
| Total | 272,600 | 173,070 | 182,875 |

*Average daily runs lower. †Operated by Bolene Refining Co.

**REFINING OPERATIONS IN KANSAS**
(Plants which have been in operation during the past year.)

| Name and location— | Daily Capacity | Runs July 1 | Runs June 1 |
|---|---|---|---|
| Arkansas City Refining Co., Arkansas City | 4,000 | 2,100 | 1,500 |
| Barnsdall Refs., Inc. (Waite Phillips), Wichita | 5,000 | 4,000 | 3,500 |
| Commonwealth Oil & Refining Co., Moran | 1,800 | Shut Down | Shut Down |
| Derby Oil & Refining Co., Wichita | 5,000 | 3,800 | 3,800 |
| El Dorado Refining Co., El Dorado | 3,500 | 2,500 | 2,500 |
| Golden Rule Refining Co., Wichita | 1,000 | 900 | 900 |
| Grant Oil Co., Augusta | 1,500 | Shut Down | Shut Down |
| Kanotex Refining Co., Arkansas City | 9,000 | 6,500 | 6,500 |
| Manhattan Oil Co. (K. C. Ref. Co.), Kansas City | 5,000 | 4,500 | 5,000 |
| Miller Petroleum Co., Humboldt | 2,000 | 1,200 | Shut Down |
| National Refining Co., Coffeyville | 6,000 | 6,000 | 6,000 |
| Peerless Oil Refining Co., Chanute | 3,000 | 2,200 | 2,200 |
| Roxana Petroleum Corp., Arkansas City | 19,500 | 16,300 | 18,000 |
| Russell County Pipe Line Co. (West Kans. Refg. Co.), Russell | 2,500 | 800 | 800 |
| Sinclair Refining Co., Coffeyville | 6,500 | 6,500 | 6,500 |
| Sinclair Refining Co., Argentine | 8,000 | 5,800 | 5,800 |
| Skelly Oil Co., El Dorado | 14,000 | 13,000 | 13,000 |
| Standard Oil Co. of Kansas, Neodesha | 12,000 | 9,000 | 9,000 |
| United Oil & Refining Co., Hutchinson | 2,500 | Shut Down | Shut Down |
| Vickers Petroleum Co., Potwin | 3,500 | 2,500 | 2,400 |
| White Eagle Oil & Refining Co., Augusta | 6,500 | 5,500 | 6,000 |
| West Missouri Group— | | | |
| Wilhoit Refining Co., Joplin | 2,000 | 1,000 | 350 |
| Total | 130,700 | 94,000 | 93,250 |

**REFINING OPERATIONS IN NORTH CENTRAL TEXAS**
(Plants which have been in operation during the past year.)

| Name and location— | Daily Capacity | Runs July 1 | Runs June 1 |
|---|---|---|---|
| Amarillo Refining Co., Amarillo | 5,000 | 3,000 | 3,500 |
| American Refining Co., Wichita Falls | 7,000 | 4,500 | 4,600 |
| Buffalo Refining Co., Sherman | 500 | Shut Down | Shut Down |
| Col-Tex Refining Co., Colorado | 5,000 | 4,500 | 4,500 |
| Crystal Petroleum Co., Burkburnett | 1,000 | 250 | 250 |
| Dale Oil & Refining Co., Electra | 3,000 | 2,000 | 1,800 |
| De Leon Refining & Pipe Line Co., De Leon | 1,500 | Shut Down | Shut Down |
| Falls Refining Co., Wichita Falls | 1,500 | 1,000 | 1,200 |
| Gulf Refining Co., Fort Worth | 15,000 | 6,400 | 6,400 |
| Hagaman Refining Co., Tiffin | 2,000 | 275 | 275 |
| Humble Oil & Refining Co., Burkburnett | 4,000 | 1,900 | 1,900 |
| Iowa Park Producing & Refining Co., Iowa Park | 2,500 | 1,200 | 1,100 |
| Kent-Middleton Refining Co., Angus | 3,000 | 2,600 | 2,600 |
| Magnolia Petroleum Co., Fort Worth | 12,000 | 6,700 | 6,700 |
| Magnolia Petroleum Co., Corsicana | 10,000 | 2,700 | 2,700 |
| Megargel Refining Co., Megargel | 2,000 | 600 | 600 |
| Miller Petroleum Co., Wichita Falls | 3,000 | 1,600 | 1,800 |
| Noble Oil & Gas Co., Burkburnett | 5,000 | 2,600 | 2,600 |
| Olney Oil & Refining Co., Olney | 1,200 | 1,000 | 1,000 |
| Oriental Refining Co., Dallas | 6,000 | Shut Down | 350 |
| Oriental Refining Co. (Trinity), Dallas | 5,000 | 2,800 | 2,800 |
| Orient Petroleum Co., Wichita Falls | 2,000 | 1,000 | 900 |
| Panhandle Refining Co., Wichita Falls | 4,000 | 2,100 | 2,500 |
| Paris Refining Co., Paris | 250 | 250 | 250 |
| Peerless Refining Co., Wortham | 400 | Shut Down | Shut Down |
| The Petroleum Corp., Electra | 2,000 | Shut Down | Shut Down |
| Primrose Refining Co., Wichita Falls | 1,500 | Shut Down | Shut Down |
| Producers Refining Co., Gainesville | 5,000 | 4,000 | 4,000 |
| Simms Oil Co. (Clayton), Dallas | 4,500 | 4,200 | 4,400 |
| Star Refining & Producing Co., Fort Worth | 1,500 | Shut Down | Shut Down |
| Sweetwater Refining Co., Sweetwater | 500 | Shut Down | Shut Down |
| Tidal Western Refining Co., Burkburnett | 3,000 | 2,700 | 2,700 |
| The Texas Company, Dallas | 15,000 | 10,000 | 10,000 |
| Texas Pacific Coal & Oil Co., Fort Worth | 6,000 | 2,300 | 2,300 |
| Texhoma Oil & Refining Co., Wichita Falls | 7,000 | 4,950 | 4,400 |
| Transcontinental Oil Co., Fort Worth | 5,000 | 2,200 | 2,500 |
| Waggoner Refining Co., Electra | 3,400 | 2,700 | 2,700 |
| Western Oil Corp. (Sunshine), Wichita Falls | 2,500 | Shut Down | 200 |
| White Eagle Oil & Refining Co., Fort Worth | 4,000 | 2,500 | 2,000 |
| Wilson Brothers Refining Co., Wichita Falls | 2,500 | Shut Down | Shut Down |
| Total | 165,250 | 84,525 | 86,525 |

(Continued on Page 132)

# Strategy of Seaboard Refineries

## Pure Oil Co.'s Enlarged and Reconstructed Plant at Marcus Hook An Example. Dock Facilities Important Factor

By L. M. Fanning
*New York Bureau, The Oil and Gas Journal, Room 543, 30 Church St., New York*

Further emphasis is laid on the strategic importance of the eastern seaboard refineries by the Pure Oil Co.'s reconstruction and enlargement of its Marcus Hook, Pa., refinery just completed.

Originally the first independent refinery built on the Atlantic Coast and dating back to 1903, the plant served as a crude oil outlet for independent refiners in the Pennsylvania region. Its early history is identified with the building and completion of the pipeline of the United States Pipe Line Co. from Oil City and Titusville, Pa., northward into the Bradford Field and thence to Marcus Hook, the line first running refined oil from numerous small independent refineries to the seaboard for export.

An export terminal was established by the Pure Oil Co. at Marcus Hook in 1901, and the refinery, coming two years later, marked an important step in the progress made by the Pennsylvania refiners in establishing themselves in the large coastal markets and in the export trade.

They were then equipped with delivery stations in Holland and Germany, had steamers under charter, pipeline connections through the United States Pipe Line Co. from the Oil Creek and northwestern Pennsylvania refineries to Marcus Hook and delivery stations in New York. Later —in 1906—the Pure Oil Co.'s pipeline from Morgantown, W. Va., to Marcus Hook was constructed.

Many epochal changes in the oil industry have occurred since those days, probably the most significant having been the industry's switch from a kerosene to a gasoline basis. But a quarter century after the establishment of the Marcus Hook refinery finds it of no less strategic importance. Its proximity to the great gasoline markets in Pennsylvania, New York and New England fits ideally into the organization and expansion of the Pure Oil Co.

### 10,000-Bbl. Capacity

The new plant has a capacity to handle completely 8,000 to 10,000 bbls. of crude per day through both the lubricating oil and cracking end of the plant. The old plant had a capacity to handle about 3,000 bbls. per day of Pennsylvania crude.

The refinery is located on the Delaware River about 18 miles below Philadelphia. The refinery site consists of about 115 acres of land in one parcel adjoining the Delaware River on which the refinery proper is located and about 292 acres about 5 miles northwest of the refinery site which is used as a tank farm for the storage of crude oils. The main thoroughfare highway known as Post Road, which connects Washington, D. C., with Baltimore, Wilmington, Chester and Philadelphia passes through the site of the refinery.

### Excellent Dock Facilities

The refinery has a frontage on the Delaware River of about 700 feet. Dock facilities recently improved by the company permit the accommodation of the largest tank boats afloat. The water depth at the dock is in excess of 35 feet. Pipeline and pumping facilities are available which permit the loading or unloading of a 75,000-bbl. tanker in less than 12 hours.

### Texas and Pennsylvania Crude

The refinery is now handling and completely refining 8,000 bbls. per day of Texas crude oil from Powell, Wortham, Mexia and Currie, plus the quantity of Pennsylvania crude oil delivered by the Pure Oil Pipe Line Co. The refinery, as previously stated, is the seaboard terminus of the Pure Oil pipeline which has for so many years gathered Pennsylvania grade crude oil in eastern Ohio and western and northern Pennsylvania. This line makes its daily deliveries of Pennsylvania grade crude oil and also to the Pure Oil Co.'s Cornplanter refinery at Warren, Pa. The United States pipeline, except for a small section, has been dismantled and the company dissolved.

The Texas crude oil is delivered to Marcus Hook by the Pure Oil Co.'s tanker fleet. These boats ply constantly between Marcus Hook and Smith's Bluff, Tex., where the company's Gulf Coast refinery and pipeline terminal is located.

These facilities with the company's assured supply of crude oil and rapidly developing distributing facilities in the East, contribute to the importance of the Marcus Hook plant.

Near the center of the refinery's river frontage a fill with piles and dirt makes available an area 450 feet wide extending out 300 feet into the river, and on this is located warehouse, a ship kitchen, pump stations and boiler house. Part of the barreling plant also is located on this ground space.

The dock is 75 feet wide and there is a warehouse built through the center of it 250 feet long by 40 feet wide. Railway siding tracks run out on the dock, paralleling the warehouse. Back of the dock is a second warehouse 150 feet long by 40 feet wide. In this part of the Pure Oil Co.'s plant are also the buildings of the cooper shop, compounding department and the barreling department.

The cooper shop has automatic hoop drivers, a barrel washing machine and other equipment. The barrel painting, filling, glueing and weighing sections adjoin. There are facilities for 44 automatic fillers in these buildings, and when the raw barrel has gone into the cooper shop, it passes through all the processes progressively, emerging from the filling rooms painted, filled, weighed, stenciled and marked and gravitates on a runway to the warehouse or the dock, ready to be loaded into ship or barge.

The compounding plant adjoins the barreling plants and has a full complement of equipment, including mixing tanks, kettles, blowers, pumps and other apparatus for a large volume output.

The large warehouses are used for storage of barreled and canned goods preparatory to shipping out in dry cargo space aboard ships and barges. The Pure Oil Co. ships large quantities of gasoline and other finished oils by water from this plant bound for other points on the Atlantic seaboard and for foreign points. By far the greater portion of this, however, is shipped to domestic points for consumption through the company's own distributing facilities.

### Railroad Facilities

Tracks of both the Pennsylvania and the Philadelphia & Reading Railroad systems extend through the center of the refinery and give it excellent tank car shipping facilities. The loading racks are connected to both railroads in such a manner that either road can deliver or remove empty or loaded cars without passing over tracks of the other company. A considerable quantity of finished products is shipped out of this plant by rail to points in the vicinity that can not be reached by water shipment.

One of the items in modernizing the plant was the construction of a new loading rack. This is of modern steel and concrete construction. It is 700 feet long and is capable of loading 36 tank cars simultaneously. It is located at a point convenient to the refinery's two pump houses from which the finished oils are delivered to it. Yet it is far enough from the tanks and other parts of the plant to avoid any hazardous conditions.

The two loading tracks, one on each side of the loading rack, are connected at one end to the tracks of the Philadelphia & Reading and at the other to the tracks of the Pennsylvania Railroad. Each car spot is equipped with drains which permit the recovery of any oils that leak from the cars or are spilled during the loading operation.

### Supplies North Atlantic Grade

The Marcus Hook refinery is supplying the company's gasoline requirements in large part on the North Atlantic seaboard and is obviating the necessity of such large quantity product shipments from its Smith's Bluff refinery. The latter will continue to supply part of the company's increasing requirements, but expanded Florida and southern demands are being met largely by the Smith's Bluff output.

The Pure Oil Co. has just completed construction of a complete bulk storage plant in Philadelphia, where gasoline and other oils will be received in barges from Marcus Hook, and is going into this district with gasoline and oil service stations on an intensive scale. Tanker and barge shipments of gasoline and other products from Marcus Hook are also made to the company's large distributing plant at Kearney, N. J.

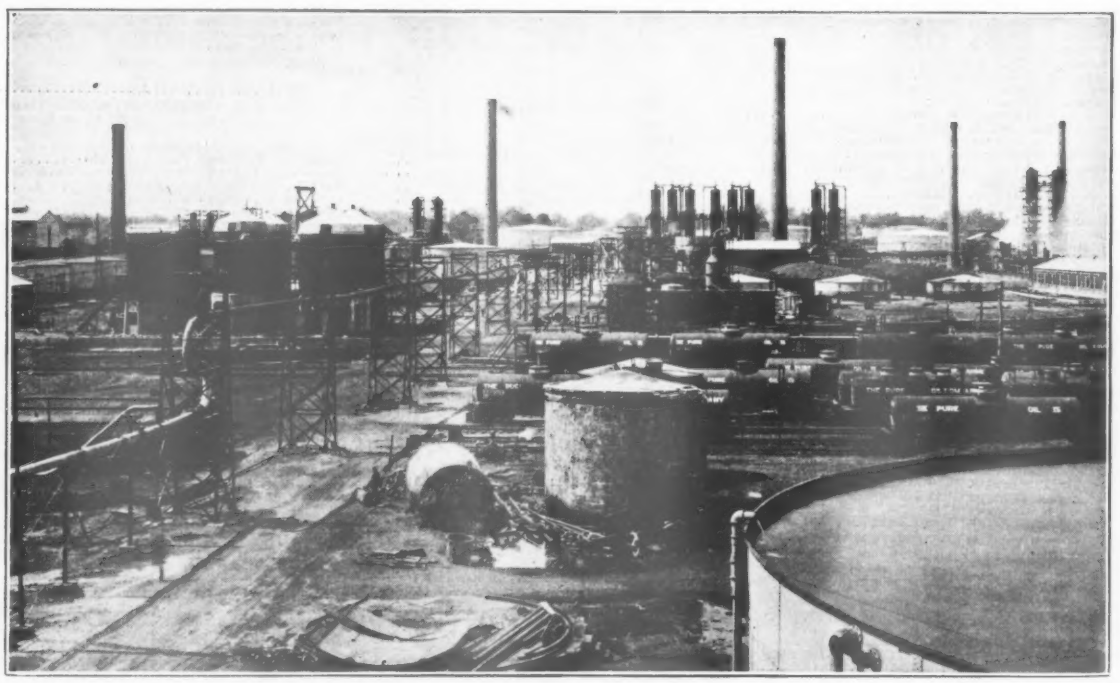
Kearney is located on the Passaic River, running into New York Bay, with deep water docks having a frontage of 200 feet. The plant covers five acres, stretching back from the river to the main lines of the Pennsylvania Railroad and the concrete highway which adjoins the other end of the site.

Besides supplying the New York City district, the Pure Oil Co.'s products are shipped from Kearney and Marcus Hook by tank cars or barrel shipments to distributing plants in upper New York, northern Pennsylvania, New Jersey, Delaware, Massachusetts and Vermont, where the company maintains distributing stations.

Keeping a refinery up to date is tantamount to constant tearing down and rebuilding. Problems of new construction are interlocked with those of the removal or reconstruction of existing equipment, and the difficulties involved, particularly as regards the country's oldest refineries, furnish the acid test for the best engineering skill.

The old plant, while it was at one time modern in every respect as operated by the old Pure Oil Co., was in more or less obsolete shape when the Ohio Cities Gas Co., now the present Pure Oil Co.,

(Continued on Page 98)



General view of Pure Oil Co.'s Marcus Hook refinery, looking northwestward. The left side of the picture shows the heavy oil part of the plant, while to the right may be seen the light oil section.

# To Increase Mid-Continent Rail Rates

## Interstate Commerce Commission Authorizes Advances With Changes in Differentials. Of Special Importance to Oklahoma and North Texas

By C. O. Willson

The greater part of the Mid-Continent refining industry, including other groups to the south extending to the Gulf Coast area, moved an almost final step nearer a general advance in freight rates to northern points when the Interstate Commerce Commission last week announced its decision in what is commonly known as the "Mid-Continent rate case." The commission in its decision denied practically all the main requests of the complainants and intervenors in the case and ordered rate adjustments which are generally more favorable to the defendant carriers than to the oil companies concerned.

The decision for the most part follows the recommendations of Commissioner Frederick C. Cox announced last September and which failed to find favor with the contending refinery groups, numerous exceptions being filed at that time. Barring a rehearing of the case the matter of rate increase now rests with the railroads. The rates prescribed by the commission are maximum and could be lowered by the carriers if they see fit. The changes in differentials between the groups as prescribed by the commission must be followed out, however, and this fact assures that the present rate relationship between the groups will be radically altered. The carriers are given 120 days to carry out the decision of the commission.

### History of Case

A brief history of the case will make clearer the scope of the commission's decision. The case originated early in 1924 when the Sinclair Refining Co. of Kansas City, Mo. (Group 1) and the Kansas refiners (Group 2) filed their petitions against the carriers (Dockets 15,584 and 15,585) asking that their differentials under the groups to the south be increased to certain points in western trunk line territory.

This resulted in the north Texas and northeast Oklahoma refiners filing petitions (dockets 16,065 and 16,066) in which they took a defensive position in regard to the original suits and at the same time asked for rearrangements of groups of origin in the Mid-Continent, involving numerous rate changes. Other groups of refiners as shown in the accompanying table intervened and there were also numerous intervenors in the consuming areas affected. In the meanwhile the defendant carriers asked for an entirely new grouping with higher rates.

### Findings of Commission

In its decision the commission disposed of these requests for regrouping by refusing to make any change in the present group arrangements. In explaining its position on this important issue, the commission said in part:

"There are refineries scattered practically throughout the Mid-Continent Field. Scarcely an important group change could be made without harmful effects upon some shipping point. With a few exceptions, the present groupings have been in effect for some time and an important commerce has been built up thereunder. While changes in the groupings might result in some technical improvements in the rate adjustments, there are many factors pointing to the desirability of leaving the present groupings unchanged.

"It is obvious, therefore, that no important group changes should be made unless supported by the strong reasons requiring the removal of unlawful situations. It is unnecessary to cite cases in which we have upheld this principle. The group rearrangement proposed by the Oklahoma and Texas complainants appears to be designed basically to serve the interests of those complainants. Consideration must be given, however, to the interests of all those who would be affected. It is apparent that this proposal would not serve the best interests of the Mid-Continent refineries as a whole."

In regard to lower rates the commission found that the rates involved, considered as a whole, were "not in excess of reasonable maximum rates" but did state that some of the rates "were unduly prejudicial or preferential between the various original groups and also between the destination groups."

Accordingly, the commission has ordered certain adjustments in rates and differentials as shown for base points in the accompanying table. The destination groups involved include the western trunk line territory, Illinois and Indiana. Proceedings were held open to points in northern Nebraska, South Dakota, North Dakota and northern Minnesota.

### Rate on Fuel Oil

Finally the commission prescribed a basis for maximum rates on fuel oil and other heavier oils stating that the rate should not exceed 80 per cent of the refined rate. This ruling means in general that freight rates on the heavy oils will be increased on long hauls and decreased on short hauls. At the present time the usual differential observed in rate making by the carriers on heavy oils is 6 cents under the refined rate. With an 80 per cent maximum base this means an increase in the 6-cent differential where the refined rate is in excess of 30 cents and a lowering when the rate is under 30 cents. There are a few minor exceptions to this general interpretation of the commission's ruling in regard to the rates on heavy oils.

The decision announced last week as it affects gasoline and other refined oils, came in the nature of a shock to the Mid-Continent refining industry although for the most part it follows the commissioner's recommendations to the commission. Although they have secured most of the differentials asked under the groups to the south, the decision was not considered favorable even by the refiners of Groups 1 and 2. These refiners had asked that these differentials be given them by lowering their own rates and instead they were obtained by leaving their own rates as they were in most instances and advancing those of their competitors to the south.

### Effect of Rates

Taking the data given in the accompanying table the writer found the following comparison reflected the average change in rates between the present rates and those proposed to the 18 representative points of destination:

**Rates—18 Cities**

| | Present | Proposed | Inc. |
|---|---|---|---|
| Group 1 | 30.7 | 30.1 | *.6 |
| Group 2 | 35.1 | 34.4 | *.7 |
| Group 3 | 36.5 | 37.1 | .6 |
| North Texas | 39.2 | 39.6 | .4 |
| Ranger | 41.7 | 41.2 | *.5 |
| San Antonio | 42. | 42.3 | .3 |
| South Texas | 39.4 | 41.7 | 1.3 |
| El Dorado-Shreveport | 36.9 | 39.1 | 2.2 |

*Decrease.

This table, based on averages, of course, only partially reflects the relative importance of the proposed changes. The table shows that the rates of the El Dorado-Shreveport and south Texas areas were increased the most. This is of no particular significance, however, for the reason that these areas ship relatively little of their refined oil output to the points of destination named in the commission's decision having at the present time more favorable rates to other points.

### Blow to Oklahoma

It is apparent from a study of the proposed rate changes that Oklahoma (Group 3) and the north Texas areas are dealt the greatest blow in the proposed changes. Although the average rate increase to the 18 points is only .6 cents per gallon in the case of Oklahoma and .4 cents in the case of north Texas, this does not reflect the actual increased burden which these areas will be called upon to bear.

The larger table shows that the rates have been advanced the greatest where the Oklahoma and north Texas refiners are accustomed to move the bulk of their gasoline output. This is shown in the fact that the carriers are authorized to advance the 36 cents rate from Oklahoma to Chicago to 39 cents, to Milwaukee from 39.5 to 42 cents, to St. Louis from 29.5 to 32 cents to Kansas City, Mo., 24 to 27 cents and Peoria, Ill., from 36 to 39 cents with similar increases from the north Texas areas. Some decreases are allowed these areas but these for the most part are to areas where other competitive groups already have a better rate. It is expected that these two areas will make a special effort to prevent the maximum rates allowed by the commission's decision being put into effect.

Representative opinion obtained from refiners in Kansas indicated they would be joined with that group in an attempt to prevent the higher rates being placed in effect. Groups 1, 2 and 3 and the north Texas groups are the most concerned in the decision and all are agreed that higher rates, regardless of changes in differentials, constitute a serious menace to the entire Mid-Continent refining industry which has felt that it needed lower rather than higher rates if it were to survive in competition with its competitors more favorably located in regard to consuming markets.

### Lawrence Statement

J. F. Lawrence, traffic attorney, who has represented the Kansas (Group 2) refiners in the trial of the case in a prepared statement said in part:

"This decision, is, I think, the most important thing that has happened to

(Continued on Page 102)

**Table showing present and proposed rates from Southwestern refinery groups to 18 representative base points of destination. Present and proposed differentials under Group 3 also shown based on Interstate Commerce Commission decision.**

| FROM— | Kansas City, Mo. Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1-KC | .... | .... | .... | .... | .... |
| Group 2—Kansas | 17.5 | 20. | 2.5 | †6.5 | †7. |
| Group 3—Oklahoma | 24. | 27. | 3. | .0 | .0 |
| North Texas | 29.5 | 31. | 1.5 | 5.5 | 4. |
| Ranger | 29.5 | 32.5 | 3. | 5.5 | 5.5 |
| San Antonio | 34.5 | 34. | *.5 | 5. | 5.5 |
| South Texas | 32. | 34. | 2. | 8. | 7. |
| Eldorado-Shreveport | 29.5 | 31.5 | 2. | 0. | 4.5 |

| FROM— | Dubuque, Iowa Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 28. | 31. | 3. | †6. | †7. |
| Group 2—Kansas | 34. | 36. | 2. | 0. | †2. |
| Group 3—Oklahoma | 34. | 38. | 4. | 0. | 0. |
| North Texas | 42. | 44.5 | 2.5 | 8. | 2.5 |
| Ranger | 45. | 44. | 1. | 5.5 | 4. |
| San Antonio | 39. | 43. | 4. | 5. | 5. |
| South Texas | 36.5 | 42. | 5.5 | 2.5 | 4. |
| Eldorado-Shreveport | 29.5 | 31.5 | 2. | 0. | 4.5 |

| FROM— | Cedar Rapids, Iowa Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 26.5 | 27.5 | 1. | †7.5 | †8.0 |
| Group 2—Kansas | 33. | 33. | 0. | †1.0 | †2.5 |
| Group 3—Oklahoma | 38.5 | 36.5 | *2. | 0. | 0. |
| North Texas | 36.5 | 38. | 1.5 | 2.5 | 2.5 |
| Ranger | 39.5 | 39.5 | .0 | 5.5 | 4. |
| San Antonio | 39. | 41. | 2. | 5. | 5.5 |
| South Texas | 36.5 | 41. | 4.5 | 2.5 | 5.5 |
| Eldorado-Shreveport | 34. | 38.5 | 4.5 | .0 | 3. |

| FROM— | Milwaukee, Wisc. Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 36. | 35. | *1. | †3.5 | †7.0 |
| Group 2—Kansas | 39.5 | 40. | .5 | 0. | *2.0 |
| Group 3—Oklahoma | 39.5 | 42. | 2.5 | 0. | 0. |
| North Texas | 42. | 44.5 | 2.5 | 2.5 | 2.5 |
| Ranger | 45. | 46. | 1. | 5.5 | 4. |
| San Antonio | 44.5 | 46.5 | 2. | 5. | 4.5 |
| South Texas | 42. | 45. | 3. | 2.5 | 3. |
| Eldorado-Shreveport | 39.5 | 42. | 2.5 | 0. | 0. |

| FROM— | Fort Dodge, Iowa Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 29.5 | 28.5 | *1. | †9. | †8.0 |
| Group 2—Kansas | 36. | 34. | *2. | †2.5 | †2.5 |
| Group 3—Oklahoma | 38.5 | 36.5 | *2. | .0 | .0 |
| North Texas | 41. | 39. | *2. | 2.5 | 2.5 |
| Ranger | 44. | 40.5 | *3.5 | 5.5 | 4. |
| San Antonio | 43.5 | 42. | *1.5 | 5. | 5.5 |
| South Texas | 41. | 42. | 1. | 2.5 | 5.5 |
| Eldorado-Shreveport | 38.5 | 39.5 | 1. | 0. | 3. |

| FROM— | Duluth, Minn. Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 43. | 40. | †3. | †6. | †7. |
| Group 2—Kansas | 49. | 45. | †4. | 0. | †2. |
| Group 3—Oklahoma | 49. | 47. | †2. | 0. | 0. |
| North Texas | 51.5 | 49.5 | †2. | 2.5 | 2.5 |
| Ranger | 54.5 | 51. | †3.5 | 5.5 | 4. |
| San Antonio | 54. | 52.5 | †1.5 | 5. | 5.5 |
| South Texas | 51.5 | 52.5 | 1. | 2.5 | 5.5 |
| Eldorado-Shreveport | 49. | 50. | 1. | 0. | 3. |

| FROM— | St. Louis, Mo. Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1-KC | 26.5 | 25. | *1.5 | †3. | †7.0 |
| Group 2—Kansas | 29.5 | 30. | 0.5 | 0. | †2.0 |
| Group 3—Oklahoma | 29.5 | 32. | 2.5 | 0. | 0. |
| North Texas | 32. | 34.5 | 2.5 | 2.5 | 2.5 |
| Ranger | 32. | 36. | 4. | 2.5 | 4. |
| San Antonio | 34.5 | 36.5 | 2. | 5. | 4.5 |
| South Texas | 29.5 | 33.5 | 4. | 0. | 2.5 |
| Eldorado-Shreveport | 29.5 | 32. | 2.5 | 0. | 0. |

| FROM— | Wausau, Wisc. Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 38.5 | 39. | .5 | †6. | †7.0 |
| Group 2—Kansas | 44.5 | 44. | *.5 | 0. | 0. |
| Group 3—Oklahoma | 44.5 | 46. | 1.5 | 0. | 0. |
| North Texas | 47. | 48.5 | 1.5 | 2.5 | 2.5 |
| Ranger | 50. | 50. | 0. | 5.5 | 4. |
| San Antonio | 49.5 | 51. | 1.5 | 5. | 5. |
| South Texas | 47. | 50. | 3. | 2.5 | 5. |
| Eldorado-Shreveport | 44.5 | 47.5 | 3. | 0. | 1.5 |

| FROM— | Mason City, Iowa Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 31.5 | 31. | .5 | †6.5 | †7. |
| Group 2—Kansas | 38. | 36. | 2. | †2.0 | †2. |
| Group 3—Oklahoma | 40. | 38. | 2. | 0. | 0. |
| North Texas | 42.5 | 40.5 | 2. | 2.5 | 2.5 |
| Ranger | 45.5 | 42. | 3.5 | 5.5 | 4. |
| San Antonio | 45. | 43.5 | 1.5 | 5. | 5.5 |
| South Texas | 42.5 | 43.5 | 1. | 2.5 | 5.5 |
| Eldorado-Shreveport | 40. | 41. | 1. | 0. | 3. |

| FROM— | St. Paul, Minn. Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 37. | 35. | *2. | †6. | †7. |
| Group 2—Kansas | 43. | 40. | *3. | 0. | †2. |
| Group 3—Oklahoma | 43. | 42. | *1. | 0. | 0. |
| North Texas | 45.5 | 44.5 | *1. | 2.5 | 2.5 |
| Ranger | 48.5 | 46. | *2.5 | 5.5 | 4. |
| San Antonio | 48. | 47.5 | *.5 | 5. | 5.5 |
| South Texas | 45.5 | 47.5 | 2. | 0. | 5.5 |
| Eldorado-Shreveport | 43. | 45. | 2. | 0. | 3. |

| FROM— | Omaha, Nebr. Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 24. | 24. | 0. | †9.5 | †9.0 |
| Group 2—Kansas | 29.5 | 29.5 | 0. | †4.0 | †3.5 |
| Group 3—Oklahoma | 33.5 | 33. | *0.5 | 0. | 0. |
| North Texas | 36. | 35.5 | *.5 | 2.5 | 2.5 |
| Ranger | 39. | 37. | *2.0 | 5. | 4. |
| San Antonio | 38.5 | 38.5 | 0. | 5. | 5.5 |
| South Texas | 36. | 38.5 | 2.5 | 2.5 | 5.5 |
| Eldorado-Shreveport | 33.5 | 36. | 2.5 | 0. | 3. |

| FROM— | Sioux Falls, S. D. Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 37. | 33. | †4. | †6. | †7. |
| Group 2—Kansas | 43. | 38. | †5. | 0. | †2. |
| Group 3—Oklahoma | 43. | 40. | †3. | 0. | 0. |
| North Texas | 45.5 | 42.5 | †3. | 2.5 | 2.5 |
| Ranger | 48.5 | 44. | †4.5 | 5.5 | 4. |
| San Antonio | 48. | 45.5 | †2.5 | 5. | 5.5 |
| South Texas | 45.5 | 45.5 | 0. | 2.5 | 5.5 |
| Eldorado-Shreveport | 43. | 43. | 0. | 0. | 3. |

| FROM— | Chicago, Ill. Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1-KC | 32.5 | 32. | *.5 | †3.5 | †7.0 |
| Group 2—Kansas | 36. | 37. | 1. | 0. | 0. |
| Group 3—Oklahoma | 36. | 39. | 3. | 0. | 0. |
| North Texas | 38.5 | 41.5 | 3. | 2.5 | 2.5 |
| Ranger | 38.5 | 43. | 4.5 | 2.5 | 4. |
| San Antonio | 41. | 43.5 | 2.5 | 5. | 4.5 |
| South Texas | 38.5 | 42. | 3.5 | 2.5 | 3. |
| Eldorado-Shreveport | 36. | 39. | 3. | 0. | 0. |

| FROM— | Des Moines, Iowa Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 24. | 24. | 0. | †9. | †9.0 |
| Group 2—Kansas | 30. | 29.5 | *.5 | †3. | †3.5 |
| Group 3—Oklahoma | 33. | 33. | 0. | 0. | 0. |
| North Texas | 35.5 | 35.5 | 0. | 2.5 | 2.5 |
| Ranger | 38.5 | 27. | *1.5 | 5.5 | 4. |
| San Antonio | 38. | 38.5 | .5 | 5. | 5.5 |
| South Texas | 35.5 | 38.5 | 3. | 2.5 | 5.5 |
| Eldorado-Shreveport | 33. | 36. | 3. | 0. | 3. |

| FROM— | Lincoln, Nebr. Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 24. | 24. | 0. | †9.5 | †9. |
| Group 2—Kansas | 29.5 | 29.5 | 0. | †4.0 | †3.5 |
| Group 3—Oklahoma | 33.5 | 33. | .5 | 0. | 0. |
| North Texas | 36. | 35.5 | .5 | 2.5 | 2.5 |
| Ranger | 39. | 37. | 2.0 | 5.5 | 4. |
| San Antonio | 38.5 | 38.5 | 0. | 5. | 5.5 |
| South Texas | 36. | 38.5 | 2. | 2.5 | 5.5 |
| Eldorado-Shreveport | 33.5 | 36. | 2.5 | 0. | 3. |

| FROM— | Keokuk, Iowa Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 26.5 | 26.5 | 0. | †4.5 | †7.0 |
| Group 2—Kansas | 31. | 31.5 | .5 | 0. | †2. |
| Group 3—Oklahoma | 31. | 33.5 | 2.5 | 0. | 0. |
| North Texas | 33.5 | 36. | 2.5 | 2.5 | 2.5 |
| Ranger | 36.5 | 37.5 | 1. | 5.5 | 4. |
| San Antonio | 36. | 38. | 2. | 5. | 4.5 |
| South Texas | 33.5 | 36.5 | 3. | 2.5 | 3. |
| Eldorado-Shreveport | 31. | 33.5 | 2.5 | 0. | 0. |

| FROM— | Sioux City, Iowa Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 29.5 | 28. | *1.5 | †10. | †8.0 |
| Group 2—Kansas | 36. | 33.5 | *2.5 | †3.5 | †2.5 |
| Group 3—Oklahoma | 39.5 | 36. | *3.5 | 0. | 0. |
| North Texas | 42. | 38.5 | *3.5 | 2.5 | 2.5 |
| Ranger | 45. | 40. | *5. | 5.5 | 4. |
| San Antonio | 44.5 | 41.5 | *3. | 5. | 5.5 |
| South Texas | 42. | 41.5 | .5 | 2.5 | 5.5 |
| Eldorado-Shreveport | 39.5 | 39. | .5 | 0. | 3. |

| FROM— | Peoria, Ills. Rate Pres. | Rate Prop. | Rate Inc. | Differential Over Gp. 3 Pres. | Differential Over Gp. 3 Prop. |
|---|---|---|---|---|---|
| Group 1—KC | 29.5 | 29. | *.5 | †3.5 | †7. |
| Group 2—Kansas | 33. | 34. | 1. | 0. | †2. |
| Group 3—Oklahoma | 33. | 36. | 3. | 0. | 0. |
| North Texas | 35.5 | 38.5 | 3. | 2.5 | 2.5 |
| Ranger | 38.5 | 40. | 1.5 | 5.5 | 4. |
| San Antonio | 41. | 40.5 | *.5 | 8. | 4.5 |
| South Texas | 38.5 | 39. | .5 | 5.5 | 3. |
| Eldorado-Shreveport | 33. | 36. | 3. | 0. | 0. |

*Decrease. †Differential under Group 3.

# Odd Features of the Thomas Field

## Valuable Data in the Exploration of Kay County's Undeveloped Areas Found in Survey of Pool, Township 25-2w

By Stuart K. Clark*
*Ponca City, Oklahoma*

The Thomas Oil Field is not a major pool from a production standpoint, but some features of the structure and geologic history of the area are of sufficient interest to make them worthy of record. The field is located in the center of Township 25n, Range 2w, Kay County, Oklahoma, about 6 miles northwest of the Tonkawa Oil Field.

### History of Development

The discovery well of the Thomas Field, Marland Oil Co.'s Thomas No. 1, was drilled on the strength of structural information obtained by core drilling. It was completed in May, 1924, as a 250-bbl. well in sand encountered at a depth of 2,055 feet, which is hereafter called the Thomas sand.

The drilling campaign which followed this discovery was short lived. Only two additional producers, Twin State Oil Co.'s No. 1 Siler, in the NW cor. Section 22, and Carter Oil Co.'s No. 1 Turk, in the NE, Section 21, were found at this horizon. The other drilling wells either missed the sand entirely or found it carrying water. All of them except Marland's No. 2 Thomas, in the SE SW SW, Section 15, were shut down. It was drilled deeper and in May, 1925, was completed as a 3,600-bbl. well in the Wilcox sand. The top of the sand was found at 3,955 feet and the well, as finally completed, penetrated the sand 91 feet.

A second drilling campaign was immediately begun. It resulted in the finding of 11 producing wells in the Wilcox sand, and three additional producing horizons. In the order of their discovery these horizons were: The chert at the top of the "Mississippi lime," with four producing wells; the 2,600-foot, or Turk sand, with two wells; and a 1,900-foot sand with one well. The development of the field at the present time (March, 1926) is practically complete.

### Production

The Thomas Field has produced to date 3,000,000 bbls. of oil. Its present daily average is 7,000 bbls. and its ultimate total production is estimated at approximately 4,500,000 bbls.

The major portion of the oil has come from the Wilcox sand. The initial production of the wells in this horizon ranged as high as 6,500 bbls. per day. The maximum initial production of wells producing from the chert at the top of the "Mississippi lime" was about 250 bbls. The Turk sand wells produced 75 bbls. per day. The largest initial production from the Thomas sand was 350 bbls. The one well in the 1,900-foot sand started at 400 bbls. a day but declined very rapidly.

The oil produced is the high gravity (42 to 44 degrees Baume) green oil which is characteristic of this general district.

Open flows of from 10,000,000 to 30,000,000 feet of gas were encountered by several wells in a sandy lime in the Permian rocks at a depth of 1,200 feet.

### Stratigraphy

The surface rocks in this area are the Wellington shales of Permian age. The sequence and thickness of the formations underlying the area and the stratigraphic position of the various oil producing horizons are shown graphically in the accompanying geologic section (Figure 1). The thicknesses shown in this section are the maximum encountered, and consequently do not indicate the depths at which the deeper horizons are found on the top of the structure. In the order in which they are encountered by the drill, the strata that underlie the area are described in the following paragraphs.

*By permission of American Association of Petroleum Geologists and the Marland Oil Co. of Oklahoma.

Rocks of Permian age are found from the surface to a depth of 1,200 to 1,300 feet. They include a series of alternating gray and red shales about 450 feet thick at the top; a series of the thin gypsum or anhydrite beds (logged as limestones by the drillers) separated by gray shales, with a total thickness of 150 feet; and series of alternating limestones and red shales about 600 feet thick with the Herington limestone at the top and the Neva limestone at the bottom.

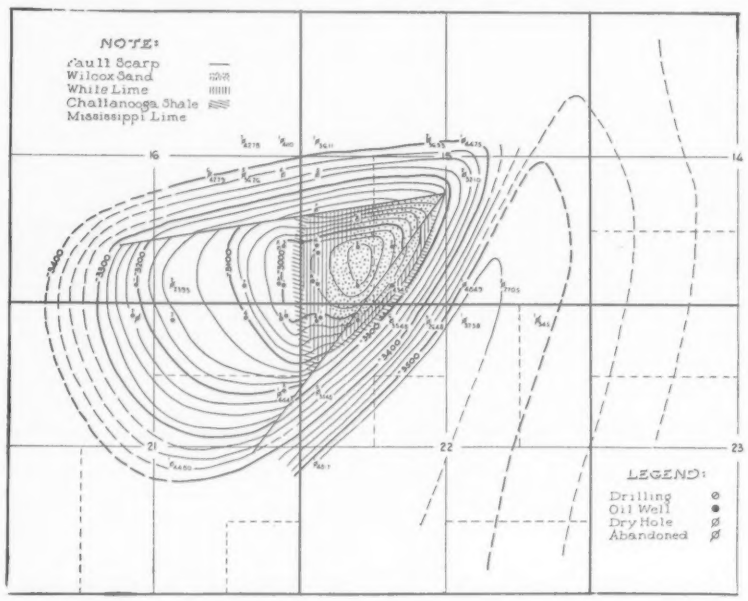
The base of the "Red Beds" practically coincides with the base of the Permian.

### Pennsylvanian

The Pennsylvanian system includes a maximum thickness of 2,800 feet of blue and gray shales, limestones and sandstones. The prominent limestones include the Foraker, Pawhuska, Oread and the "Oswego-Big Lime" group. The most prominent sandstones include the Hoover sand series, the Endicott sand series and the Layton sand. The Tonkawa sand is represented only by a sandy shale zone over the top of the fold. Thin beds of red rock are found at the top of the Endicott sand zone, and a short distance above the base of the Pennsylvanian.

Three of the producing horizons of the field lie in the Pennsylvanian. They are all sandstones. The 1,900-foot and Thomas sands are separated by an interval of less than 100 feet, and occur immediately above the Pawhuska lime. The Turk, or 2,600-foot sand, is the equivalent of the upper Endicott sand of the Tonkawa Field.

The Cherokee shales, which constitute the basal member of the Pennsylvanian system, vary greatly in thickness as indicated by the accompanying cross sections (Figures 2 and 3). On the flanks of the fold two distinct beds of fine-grained, shaley, micaceous sand are found in the Cherokee. These beds are usually ignored or simply logged as "shells" by the drillers, but they are of considerable assistance to the geologist who is following the progress of a drilling well, since they can readily be distinguished from the sands of the Simpson formation, and their presence furnishes conclusive evidence that a well is still in the Pennsylvanian.




Topography and areal geology, pre-Pennsylvanian surface, Thomas Field, Township 25n, Range 2w, Kay County, Oklahoma.

### Mississippian

The Mississippian system is represented by the "Mississippi lime" with a maximum thickness of 300 feet. varies from a gray to dark brown or black cherty limestone with a variable thickness of residual chert at the top.

On the west flank of the "structure" where this chert bed attains its greatest thickness, it serves as the reservoir rock from which Carter Oil Co.'s Nos. 2 and 4 Turk, and Wentz Oil Corp.'s No. 2 Thomas, all in Section 21, and Marland Oil Co.'s No. 1 School land No. 25, in Section 16, are producing.

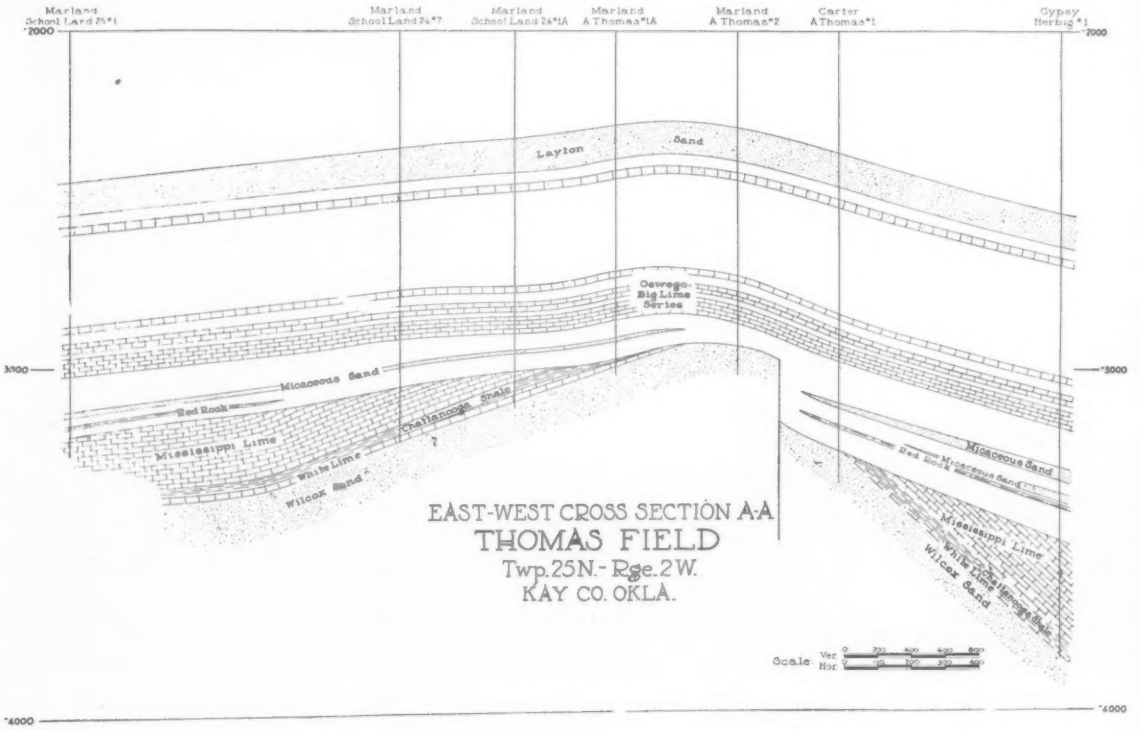
### Devonian

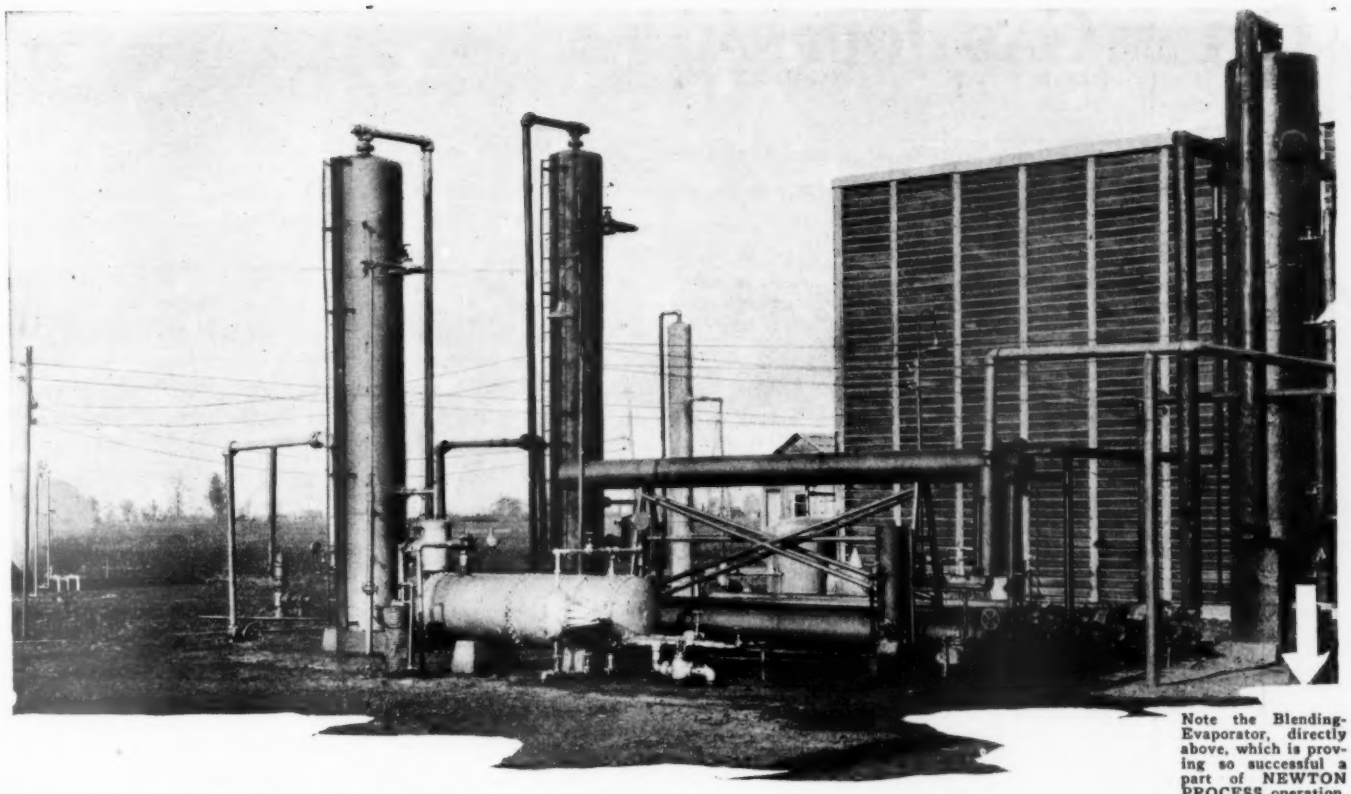
The Chattanooga shale, a black carbonaceous shale containing a considerable amount of iron pyrites, has in the past been referred to the Devonian system, but some recent workers are inclined to place it in the Mississippian. It has a uniform thickness of about 30 feet.

### Ordovician and Cambro-Ordovician

Rocks of strictly Ordovician age in this area include the "white lime" and the Simpson formation. As the name implies the "white lime" is a white to putty colored limestone about 15 feet thick,

(Continued on Page 72)





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## AN UNDERESTIMATED CONTRIBUTION

Speaking at the Drake Day observance at Titusville in 1923 the late A. C. Bedford, then chairman of the board of directors of the Standard Oil Co. of New Jersey, said:

"A greatly underestimated contribution to the gasoline supply is casinghead gasoline, manufactured from oil well or natural gas. Competent authorities place the output of this gasoline last year (1922) at almost 20,000,000 bbls. The official return gives only the refinery runs of 3,661,784 bbls. of casinghead gasoline, so that between 16,000,000 and 17,000,000 bbls. of gasoline went into consumption without government cognizance."

That this opinion, based upon Mr. Bedford's profound knowledge of the oil business, was prophetic has been shown by the strides of the natural gasoline industry in the past few years.

The output is now running at nearly five times the rate of four years ago. It is estimated to be furnishing two gallons of gasoline for every barrel of crude produced. In the first four months of this year there was an increase in natural gasoline output of 25 per cent over the same period a year ago.

Not only have the manufacturers of natural gasoline increased their output but they are making a better product. The old product of earlier days was unstable and difficult to handle either raw or as a blend. The industry has completely overcome these disadvantages by adopting improved processes that have developed a superior product. Better absorption and better fractionation have been obtained by improved equipment and methods of operation.

The immediate problem, which is felt in one way or another throughout the entire oil industry, is to enlarge this market. What is being done by the Association of Natural Gasoline Manufacturers to promote the larger utilization of their product is, therefore, of direct interest to every one in the oil business.

Mr. Bedford sensed that three years ago when he spoke of the value of natural gasoline.

Since, as a first step, the association retained Dr. G. G. Brown and Dr. E. H. Leslie, professors of chemical engineering at the University of Michigan, to formulate and direct a program of research in the utilization of natural gasoline in motor fuel, a definite course of development has been mapped out. It is offered with the authority of the standing of these scientists in their field of inquiry and of the great institution they represent.

There are, it is pointed out, three phases to be considered. First, the demand for an antiknock fuel.

A few years ago motor fuel had an endpoint averaging from 325 to 350. It was used in engines with a higher compression than those of the present day without an engine knock except from carbon which was a minor matter. But during the war the need for gasoline compelled the advancing of the endpoint to increase the supply and the Government specifications for some time have called for 437 endpoint U. S. Motor gasoline. Domestic grades run as high as 450 endpoint. This, it was understood, obliged the motor makers to reduce their compression ratio in the engines with which we are familiar.

Today, however, there is a return to the higher compression and more efficient engine which in turn is demanding a different kind of fuel, with lower endpoint and lower initial.

The Texas Company's remarkable nation-wide success with a gasoline with 400 endpoint and an initial under 100 degrees Fahrenheit speaks for itself. The premium gasolines being offered over the country are marked by low endpoints and initials.

Volatility which is the characteristic of natural gasoline makes possible lower endpoint and lower initial. This volatility is also an essential factor in the second phase—readiness in starting and smoother engine performance.

The third point is that when the endpoint was raised we began to hear of what is now known as crankcase dilution. The heavier ends in the gasoline were not utilized as fuel but condensed and diluted the lubricating oil. A lower endpoint fuel, it is argued, will mean less dilution of the lubricant with a resulting saving to the motorist.

The volatility of natural gasoline making possible lower endpoint and lower initial, the qualities needed for the higher compression engines that are to be the next feature of automobile marketing, and the premium motor fuel that the public demands, is to be stressed in the campaign of education of consumers which the Association of Natural Gasoline Manufacturers is now preparing.

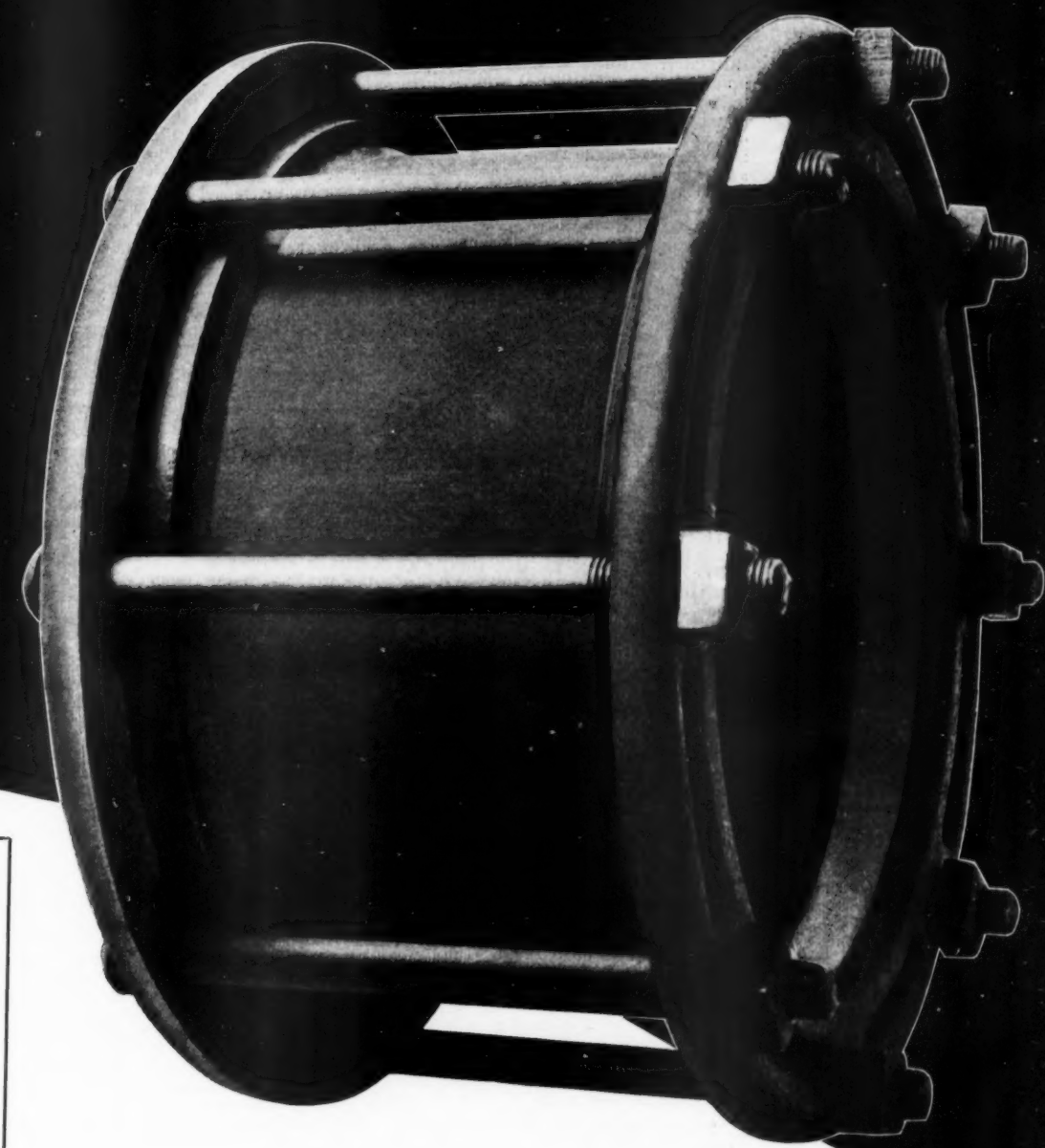
The association will establish the equivalent of four fellowships in research work directed to discover the special values of natural gasoline as a constituent in motor fuel. One of the earliest studies will be to obtain a scientifically accurate measure of volatility. The present distillation test is of little real value.

The natural gasoline industry is a notable example of the conversion of waste into profit, one of the most valuable functions of research. The research program of the Association of Natural Gasoline Manufacturers promise an expanded application of that principle by promoting larger utilization.

It is the purpose of this program to co-operate with the refining industry and with the automotive industry in prosecuting research regarding motor fuel efficiency which the association believes can be demonstrated by a wider use of natural gasoline.

The movement has been financed by both members and nonmembers of the association, showing the general interest in the campaign to inform the consumers and the public about the characteristics of this product. Such a study of the values of natural gasoline and of motor fuels cannot fail to be of very great importance and interest to the oil industry and those who use its products.

# DRESSER



"Of the thousands of miles of high pressure natural gas trunk lines in use, it is conservative to say that more than 75 per cent of those of plain-end pipe are connected with Dresser Couplings."

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# Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

*The Question and Answer Department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.*

*Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation.*

*Those connected with the marketin the utilization of petroleum products are also invited to take advantage of the new service.*

*Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.*

### GASOLINE AND ALCOHOL

**Is it a fact that small quantities of gasoline will destroy the ordinary properties of alcohol?—C. F. N.**

There are so many uses made of alcohol that it is impossible to say just what is meant by ordinary properties. Gasoline will certainly render it unfit for internal use but would not prevent it from being used as a solvent for gums, etc., in the paint industry. A mixture of alcohol and gasoline is often used in cleaning establishments.

The United States Treasury Department has recently approved a new regulation which provides for the addition of one-half gallon of gasoline to each 100 gallons of alcohol as a denaturing agent. With this quantity of gasoline present it is the belief of the department that alcohol will cease to be a popular beverage.

### COLOR OF GASOLINE

**What causes the development of color in a cracked gasoline as compared with a straightrun gasoline of the same gravity?—J. N. S.**

It is thought that the hydrocarbons of the closed ring series, aromatics, are largely responsible for the color forming bodies in cracked gasoline. The hydrocarbons of the open chain or methane series are colorless and do not tend to form substances which are colored. The aromatics form the basis for the dyestuff industry. While they are seldom found in straightrun gasoline to any appreciable extent, they are present in many cracked gasolines.

### DEPLETION ALLOWANCE ON GAS PROPERTY

**Can you refer us to a formula for finding the proper depletion allowance to be made in connection with a gas lease?—H. B.**

The depletion formula recommended by the United States Treasury Department is probably the simplest and as described in the 1921 Mannual for the Oil and Gas Industry, is as follows:

$$\text{Depletion allowance} = z \times \frac{x}{y}$$

x represents capital sum to the end of the year.

y the total pressure decline or the sum of the pressures at the beginning of the tax year plus the sum of the initial pressures of new wells minus the sum of the pressures at the time of expected abandonment.

z is the pressure decline during the year—as obtained by adding to the sum of the pressures at the beginning of the year the sum of the initial pressures of any new wells completed during the year and subtracting the sum of the pressures at the end of the year.

In many cases the total recoverable reserves in thousands of cubic feet can be reasonably estimated by consideration of the decline in rock pressure or decline in production, or both.

Example—In the case of a developed property on which the average rock pressure was 400 pounds in July, 1915, and was reduced to 175 pounds by September, 1919, during which time the measured production was 4,500,000 M cubic feet, it is evident that for a drop of each pound in rock pressure there was a production of 20,000 M cubic feet, and the reserves recoverable after the later date would be approximately 3,500,000,000 cubic feet.

$$\frac{\text{4,500,000 M cu. ft.}}{400-175} = \text{20,000 M cu. ft.}$$

the average production which would cause a drop of 1 pound minus the pressure.

175×20,000 M cu. ft=3,500,000 M cu. ft. the amount of gas available at 175 pounds pressure.

It would then be possible and reasonable to compute depletion for each year on the unit cost basis, using a unit cost per M cubic feet. If the capital sum returnable through depletion at the first date, July, 1915, was $400,000, then, as the reserves as of that date were 8,000,000,000 cubic feet (400×20,000 M) the unit cost would be 5 cents per M cubic foot and depletions for each year should be determined by multiplying the unit cost by the number of production units (M cu. ft.) produced during the year.

The value of gas reserves subject to depletion should be based upon the value of gas at the well.

### TETRAETHYL LEAD

**What is the meaning of the word tetraethyl as used when speaking of the antiknock material tetraethyl lead?—A. D. G.**

There are groups of carbon and hydrogen, etc., which behave, from a chemical viewpoint, in a similar way to the elements, such as iron, carbon, sulphur, etc. These groups are called radicals, examples include the methyl radical, or simply methyl, $CH_3$, and ethyl $C_2H_5$. When describing the presence of one or more radicals in a compound the use of words, prefixes, derived from the Greek are used. Thus there may be a monethyl, diethyl, triethyl or tetraethyl substance containing one, two, three or four ethyl groups. Therefore, tetraethyl lead is a compound containing four ethyl radicals.

### FORMOLITE NUMBER

**What is meant by the formolite number of an oil?—I. A. Mc.**

The weight of the insoluble matter produced from 100 c.c. of an oil and formaldehyde is known as the formalite number. It is considered to be a measure of the quantity of unsaturated hydrocarbons.

According to Southcombe, the determination may be made as follows: Dissolve 27 c.c. of the oil in 300 c.c. of pure 62-66 pure gasoline, then add 30 c.c. of concentrated sulphuric acid. Cool the flask in ice water mixture and add gradually with continued stirring 15 c.c. of 40 per cent formalehyde, continue the shaking until no further development of heat occurs. The mixture is allowed to stand for one hour at room temperature (70 degrees Fahrenheit) and then treated with 200 c.c. of ice water. The acid liquid is then saturated with ammonia and the insoluble precipitate which forms separated off, washed with the same kind of gasoline to remove all adhering unaffected oil, and finally with water to free it from ammonia. The precipitate is dried to a constant weight in a water oven. The weight of this precipitate per cent is called the formolite number, and this multiplied by 4/5 will equal the percentage of cyclic unsaturated compounds.

### WAX CRYSTALS

**We have obtained a batch of wax which consisted of very small crystals when sweated and with a low yield. As no change has been made in the crude we would like to have an explanation if it is possible for this condition.—C. H. Y.**

This appears to be a case of too rapid chilling in the pans. It is a common property of crystals that slow formation will produce large units and rapid formation will give small ones. If there is too great a difference between the temperature of the oil-wax mixture and the temperature of the cooling medium there will necessarily follow very rapid cooling and the consequent formation of the small crystals. A sudden drop in the temperature of the atmosphere under the proper conditions will cause this rapid growth of the crystals.

### MAXIMUM ALLOWABLE WORKING PRESSURE

**What method is used to determine the greatest working pressure which safety will permit to be used in a boiler?—P. J. F.**

The maximum allowable working pressure may be calculated according to the formula proposed by the American Society of Mechanical Engineers, which states: The maximum allowable working pressure on the shell of a boiler or drum shall be determined by the strength of the weakest course, computed from the thickness of the plate, the tensile strength stamped thereon, as provided for in the specifications for steel boiler plate, the efficiency of the longitudinal joint, or of the ligament between the tube holes in shell or drum, whichever is the least, the inside diameter of the course, and the factor of safety.

$$\frac{TS \times t \times E}{R \times FS} = \text{maximum allowable}$$

working pressure, pounds per square inch. Where

TS=ultimate tensile strength stamped on shell plates;

t=minimum thickness of shell plates in weakest course;

E=efficiency of longitudinal joint or of ligaments between tube holes;

R=inside radius of the weakest course of the shell or drum, provided the thickness of the shell does not exceed 10 per cent of the radius. If the thickness is over 10 per cent of the radius the outer radius shall be used for R.

FS=factor of safety, or the ratio of the ultimate strength of the material to the allowable stress. For new construction FS in the formula is 5.

The factor of safety used in determining the maximum allowable working pressure calculated on the conditions actually obtained in service shall not be less than 5.

### FORMATION OF CARBON MONOXIDE

**What causes the formation of carbon monoxide in a gas engine and when burning gas?—L. B. C.**

This dangerous gas is formed when the combustion is not complete, that is when there is not enough air to supply the required quantity of oxygen for the complete conversion of the carbon to carbon dioxide. The quantity of air admitted to an internal combustion engine is limited so the carbon monoxide is found in the exhaust. In the case of a gas burner in a stove or furnace, etc., the lack of air, the contact of the flame on a cold surface and when a very low flame is used so that there is some cooling action from the surrounding material. The gas is often formed for a few minutes after a cold burner is ignited.

It is a very poisonous gas known to produce fatal results when present in such a small quantity as one-tenth of 1 per cent. While it is odorless and tasteless its formation is usually accompanied with other substances which have a decided irritating odor and these serve as a warning that carbon monoxide is very likely present. Plenty of fresh air should be admitted to a room when this peculiar odor is noticed.

### WEIGHT OF FLY WHEELS

**Can you give me a formula for arriving at weights of fly wheels on internal combustion engines and especially the 250 and 300-horsepower Snow engines?—W. E. G.**

The following is a general formula devised by Guldner for obtaining the necessary fly wheel weight for internal combustion engines.

M=Necessary fly-wheel weight for single-cylinder, single-acting engine in pounds;

I. H. P.=Maximum indicated horsepower;

Pa=Mean indicated pressure of compression stroke in pounds per square inch;

Pb=Mean effective pressure of cycle pounds per square inch;

K=Coefficient of fluctuation (varies from 1/30 to 1/40);

V=Velocity of center of gravity of rim cross section in feet per second;

R=½D—Radius of the equivalent wheel—Distance from center of shaft to center of gravity of rim cross section in feet.

N=R.P.M.

Then

$$M = \frac{2{,}125{,}000 \times \text{I.H.P.} \times (0.75 + \frac{Pa}{Pb})}{K\ V^2\ N}$$

Different manufacturers have more or less different methods for determining fly wheel weights and in fact the method generally used is a graphical determination wherein certain inertias of reciprocating parts as well as dynamic energies are taken into account. Since the weight of the fly wheel varies inversely as the cube of the speed of rotation, the weight of the fly wheel could be cut down or the regulation of the engine materially improved by slightly increasing the speed of rotation.

The actual weights, as furnished by the Snow representative, of the fly wheels of the 250 and 300-horsepower horizontal twin-cylinder, slow-speed, pipeline engine are 20,300 and 27,000 pounds respectively.

### BLENDING GRAVITY AND ENDPOINT

**When a blend is made of two grades of gasoline, each having a different gravity and endpoint, how will the gravity and endpoint of the mixture compare with the gravity and endpoint of each of the two grades used?—P. A. J.**

These subjects have been discussed in previous issues. It has been shown that the gravity of a mixture is in direct proportion to the density of the liquids mixed. The lighter of the two liquids raising the A. P. I. gravity and the heavier one lowering the A. P. I. gravity of mixture. An equal quantity of each will produce a mixture with a gravity midway between the gravities used.

Endpoint can be diluted to a limited degree. Any large quantity of heavy endpoint stock may cause irregular results in the determination of the maximum boiling point. The degree to which a heavy end may be blended off depends on local conditions, that is the nature of the stocks used. See issue of July 1.

# More profit for Refineries

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# Fernholtz Briquetting Process

# West Texas Developing New Area

## Upton and Crane Counties Report Some Unusually Good Wells. Spindletop Deep Section Swells Coastal Output

The new deep horizon at Spindletop was the most notable contributor to the increase in Gulf Coast production during the week. Four completions ranged from 2,500 bbls. to 9,500 bbls. and the gravity from 23.5 to 29.

The most promising development during the week was in the Upton-Crane Counties district in West Texas, where some remarkable wells were completed, likely to attract a large drilling campaign.

In the Texas Panhandle the results were not so good. It is figured that there were two quarts of nitroglycerin exploded for every barrel of initial production during the week. New work was less because of the holidays and the previous high record.

In Oklahoma a siliceous lime well was completed in Tulsa County by the Riverland company making 48 bbls. an hour. The Gypsy Oil Co.'s well in Osage County in the old Boston Pool started flowing 80 bbls. an hour from the Siliceous lime.

California reported one 1,092-bbl. producer in the Long Beach deep zone, but some others were disappointing.

### North Texas

The Upton-Crane Counties area in West Texas was the feature of the week. Gulf Production Co 's No. 1 McElroy flowed 142 bbls. in 17 hours. The Dixie Oil Co.'s No. 2 E. S. Hughes flowed 375 bbls. in 45 minutes and is estimated good for 3.000 bbls.

A wildcat showing in western Shackelford and two 500-bbl. completions in the Dunn-Stover Pool in Brown County were other high spots in the developments in North Texas.

### Texas Panhandle

Two quarts of nitroglycerin were exploded for every barrel of initial production in the Panhandle in the week ended Monday. There was a notable decrease in the number of first reports, most of which were in Gray County. The holiday and the large number of first reports in the previous weeks accounted for the decline.

### Southwest Texas

The Tide Water Associated Co.'s No. 2-A Webster in the Carolina-Texas gas field in Webb County proved to be the first oil well in the field starting off at the rate of 40 bbls. an hour and gauging 51 bbls. an hour later. The oil is 34.2 gravity, while the oil in the Mirando Field is around 18 to 22 An active drilling campaign is expected.

### California

Julian Petroleum got the largest well in the Long Beach northwestern extension deep zone, 1,092 bbls. Two other fair wells were completed but there were some disappointments. M. L. Boles' No. 1 Cerritos blew in, looking like the largest producer in the field.

Barnsdall corporation's No. 12 O'Dea, in Rosecrans, flowed 560 bbls. of 41.1 gravity oil with some emulsion.

### Gulf Coast

The Spindletop Pool made an average of 19,185 bbls. the last two days of the week ending July 3, of which 17,985 bbls. came from the new deep sand section opened by the Yount-Lee Co. This company completed one well flowing 3,000 bbls. of 25.1 gravity; one flowing 5,000 bbls. 29 gravity and one 9,500 bbls. 26 gravity. Gulf Production Co. had one of 2,500 bbls. 23.5 gravity. None of these wells is showing water.

Production for the Coastal pools was 13,090 bbls. larger than the previous week.

### Canada

Imperial Oil and Royalite companies, through an official, declare they are giving every facility to develop the Turner Valley Field. H. L. Doherty & Co. has closed a contract for drilling rights in Nova Scotia and on Pictou Island. This company's test on Prince Edward Island is down 1,400 feet.

### New Mexico

It is reported from Artesia that several major companies are interested in securing acreage near the Maljamar operations. Several new wells were started and an extension of the Artesia Field was reported by the Empire Co.

### Rocky Mountain Area

Another extension to the Sunburst Field is reported, a well of the Sturdevant Oil Co. 3 miles southeast proving a 50-bbl. producer in a stray sand.

Operators are holding for higher prices on contract crude. Work in northern Montana has been retarded by heavy rains.

A new rig is being built near the discovery well at Moab, Utah.

### Oklahoma

The Riverland Oil Co. has found a Siliceous lime well south of Sand Springs in Tulsa County which began flowing at the rate of 48 bbls. an hour. For the first day it produced 996 bbls.

The Gypsy Oil Co.'s No. 29 in the old Boston Pool, Osage County, started flowing 80 bbls. an hour through a 1-inch choke.

### Kansas

The Hull and Shaffer well near Winfield, Cowley County, Kansas, averaged 700 bbls. daily the past week. No water has appeared to date. The McCullough Oil Co., which opened the Lyons County Pool, got a well making 200 bbls. daily.

### Louisiana-Arkansas

A quarter of a mile extension in Urania, outside wells in the Lisbon area, and a gasser in the Trinity horizon of Caddo Parish were the chief points of interest in the North Louisiana-Arkansas Field. Nearly all of Lisbon's new wells were small pumpers. The field now has 197 wells producing an average of 52 bbls. at each well. The Smackover deep area is showing little promise yet. There is much activity in the wildcat sections of Arkansas.

### Pennsylvania-West Virginia

The South Penn Oil Co. got a well starting at 415 bbls. in the Big Injun sand in the Goose Creek section, Grant district, Ritchie County, West Virginia. The Waynesburg Gas Co., in Liberty district, Marshall County, had a well making 295 bbls. from the Gordon sand.

The Murray City Oil & Gas Co. had a 70-bbl. well in Hocking County, Ohio, Murphy Oil Co. a similar well in Coshocton County, and Leonard Oil & Gas Co. 65 bbls. The Natural Gas Co. reported a 130-bbl. producer in Greene County, Pa.

### Kentucky-Tennessee

A 50-bbl. wildcat in Clinton County, on the Kentucky-Tennessee line, was the most interesting item from Kentucky. Sulphur Creek, Cumberland County, reported a 100 bbl. completion.

### Central West

Ridge Oil & Gas Co. completed the first commercial producer in Wyandot County, Ohio, in several years, for 40 bbls. flush. Wood County had a 52-bbl. well, a little in advance of production, and Allen County had one of 60 bbls. In Michigan the state geologist thinks there are other oil producing areas not yet tested.

### Mexico

Mexican Petroleum completed a well estimated at 20.000 bbls. at Ebano.

# Late News From the Fields

### GULF COAST

HOUSTON, Tex., July 6.—Rio Bravo Oil Co.'s No. 5 Fountain, in the deep sand section on the north side of the Saratoga Pool, is flowing 600 bbls. at 4,250 feet, 37 gravity oil.

### SOUTHWEST TEXAS

SAN ANTONIO, Tex., July 6.—Magnolia Petroleum Co. has paid $22.000 cash for a 15-acre lease ($1.466 66 per acre) known on the map as the Goodwin lease and cornering on the northwest the acreage on which the Associated Tide Water well in the Carolina-Texas gas field is located.

Simms Oil Co. has paid $12,000 for the Threadgill lease of 10 acres, about an eighth of a mile north of the Associated well. First reports were that this lease sold for $10,000 were incorrect. These two leases are the first important sales made in the immediate area of the well. The Townsend lease of 15 acres, immediately west of the well, had not been sold up to early this week and bidding for it was pretty stiff. It is a choice acreage and calls for an immediate offset.

The Texas Company officials have made a location for one offset on the north of the Associated well and are getting in tools and will make another 300 feet to the east of their first. Associated is also making new locations. The Goodwin lease was owned by several army officers scattered over the country.

Humble Oil & Refining Co. had part of its pipe strung for a line by Saturday night and is doing quick work. Officials of the company are considering the price they will post. It is expected to be around $2.25. The oil is 36.6 gravity at 93 degrees and with corrected temperature 34.2 gravity. Late Saturday the well was holding steady at approximately 60 to 65 bbls. an hour through ⅜-inch choke instead of ½-inch as first reported.

### Mirando Production

About 5.000 bbls. flush production was added to the Mirando pools last week in wells completed, there being 16 oil wells and 3 gas wells. This estimate of flush production rates the Associated well at 1,000 bbls., which is about what it is making through choke.

In the Bruni tracts territory, south of the Aviators Pool, Crown Central-Rydal's No. 1 Bruni, on the west half of Block 43, swabbed 125 bbls., Columbia Petroleum's No. 7, on Block 77, of the Edgington tracts, swabbed 500 bbls. Houston Gulf Gas Co.'s No. 1, on the south half of Block 12 of the Bruni, swabbed about 800 bbls. and went on the pump making 150 bbls. Sun Oil Co.'s No. 3, on the east half of Block 45, came in flowing about 400 bbls. and is now making 150. Staley & Wynne brought in two wells; No. 8, on Block 18, swabbed 125 bbls., and No. 10, on Block 18, swabbed 300 bbls. Edgington-Niles, on Block 65 of the Puig ranch, reported elsewhere as a dry hole, made a 25-bbl. well. G bson Oil Corp. and J. E. Walsh completed two wells, No. 9 swabbing 200 bbls. and No. 15 swabbing 250 bbls.

In the Randado Field, Johnson and others' (American Well & Prospecting Co.) No. 5, on the west end of Block 14, came in swabbing 500 bbls. Simms company's No. 7 made 125 bbls. Moody Oil Corp.'s No. 5, on Block 20, came in making 150 bbls. and No. 3 "A" making 300 bbls. Magnolia Petroleum Co. completed Nos. 5 and 6, in Block 7 of Survey 291 in the east edge of the pool, making 60 bbls. each.

Of the gas wells, Killam plugged back his No. 1 Bruni, on Block 7, Survey 835, in Webb County, and made a 25,000,000-foot well. Houston Oil Co.'s No. 1 Barnsley, in the Carolina-Texas Field, made 20,000,000 feet from the 2,000-foot sand and O. W. Killam's No. 1 Lopez, on Survey 319, in the Cole Field, made 40,000,000 feet.

### SPINDLETOP INCREASING

HOUSTON, Tex., July 6. — The old Spindletop Pool is producing 26.000 bbls. a day. The Yount Lee Oil Co.'s No 1 Davis increased from 6 000 bbls. to 9.500 bbls. The Spindletop Pool averaged over 15,000 bbls. a day last week.

### CENTRAL AND WEST TEXAS

FORT WORTH. Tex., July 5. — Late wells in the North Central Texas and Panhandle fields include the following: Dixie Oil Co.'s No. 2 Hughes, Upton County, pipeline runs 1,200 bbls. from 7 a. m. Sunday to 6 a. m. Monday; Phillips Petroleum Co. and Jerry Oil Co.'s No. 1 Whittenberg, Section 13, Block Y, Hutchinson County, flowing 47 bbls. an hour, naturally, from sand at 2,780-91 feet; Gulf Production Co and Panhandle Refining Co.'s No. 1 Hedgecoke, Section 4, Block V, Hutchinson County, shot with 350 quarts in sand at 2,943 3,013 feet, flowed 430 bbls., was good for 47 bbls. a day before the shot; Phillips Petroleum Co.'s No. 1 Sneed, in Jones survey, Moore County, a show of oil in sand at 2,612-15 feet, setting 6-inch casing.

The Cook Ranch Pool was extended eastward Sunday by Roeser & Pendleton in No. 9-B, Section 85, E. T. R. R. 85,

(Continued on Page 121)

### MEASURES EARTH'S PULL

CHICAGO, July 3.—R C. Hartsough, of the development department of the Hawthorn Works, Western Electric Co. of Chicago, has perfected a torsional spring balance that it is claimed is so sensitive that it will detect the difference in the pull of the earth when bodies of oil are beneath the surface showing a lesser pull than when solid earth and rock or water is present. Mr. Hartsough has worked for years in perfecting his device and expects that it will prevent much waste from the drilling of unproductive wells.

### PENNSYLVANIA GRADE SESSION

OIL CITY, Pa., July 5.—The annual meeting of the Pennsylvania Grade Crude Oil Association will be held at Wheeling, W. Va., July 8. An open forum will be held with the intention to make welcome all concerns and individuals interested in the production, refining and distribution of Pennsylvania grade oil. President Clayton G. Dorn, of the Forest Oil Co., Bradford, Pa., is expected to tell of his observations of oil mining in Europe.

### PRAIRIE P. L. SHIPMENTS

Prairie Pipe Line shipments of crude oil in June were 4.215,416.06 bbls., or an average of 140.514 bbls. a day. The May shipments were 4,542.260 bbls., or a daily average of 146 525 bbls. April shipments were 4,332.972 bbls., or a daily average of 144,432 bbls. a day.

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# Upton-Crane West Texas Feature

## Dixie Co. Well in Hurdle District Estimated 3,000 Bbls.
## Gulf Production Co.'s No. 1 McElroy 142 Bbls. 17 Hours

By C. D. Lockwood
*Staff Correspondent, North Central Texas*

FORT WORTH, Tex., July 5.—The sun is shining again in west Texas. Literally speaking, of course, it never does anything else, but for the past couple of years the oil operators out in those wide open spaces have been seeing it through a cloud darkly and have kept on prospecting only because of their unshakable superstition that the Big Lake Field's twin sister or at least some of her distant relatives would be found and taught the ways of civilization. Two developments of tremendous importance during the past week following the Marland Oil Co.'s flash on the Burleson tract have seemed to justify their hopes and it is now conservatively predicted that west Texas will vie with the Panhandle in activity during the coming months.

The two discoveries referred to are those by the Gulf Production Co. on the McElroy in Upton or Crane County, depending on which map you have, and the Dixie Oil Co.'s No. 2 E. S. Hughes, just one location east of the No. 1, on the Upton-Crane line. The Gulf's No. 1 McElroy, in the SE cor. of Section 203, Block F., C. C. S. D. & R. G. N. G. Survey, topped the pay at 2,713 feet and was drilled 13 feet into the formation about the middle of last week. It made several heads and when connected up to tankage at 5 p. m., July 3, flowed by heads 142 bbls. in the first 17 hours. The 6-inch was to be run by Monday night and the opinion prevailed generally that a good well would result from this test. It is about 5 miles southeast of the Magnolia pumper (formerly the Church & Fields), and about 8 miles due north of the Marland Oil Co.'s No. 1 Keith. It is also about 15 miles northwest of the Marland Oil Co.'s No. 8 Burleson, which staged a sensational flow last week. The Gulf Production Co. owns practically everything around the McElroy for miles except a couple of quarter sections owned by Dunning, and a half section 2 miles due east held by the White Eagle Oil & Refining Co. If the production shows up good when completely tested, the White Eagle will drill on its tract. This 320-acre tract cost the White Eagle $2 an acre last fall and they were asked this week if they would take $200 an acre for it, giving a negative reply. It is reported that $125 an acre was offered for 120 acres 2 miles due west of the well.

### Sensation of Week

The big sensation of the week, however, came from the central part of the Hurdle district, where the Dixie Oil Co.'s No. 2 E. S. Hughes in the William Teer Survey No. 4, flowed 375 bbls. by actual gauge in 45 minutes after penetrating 1 foot into the rich pay at 2,048-49 feet. The well was estimated by scouts as good for 3,000 bbls. and will probably be the cause of several tests as The Texas Company owns acreage on the north, the Roxana Petroleum Corp. has a piece to the east fairly close and the Gulf, Humble and others will probably consider their acreage "in the money." This No. 2 well topped the pay at 2,025-30 feet and had 1,000 feet of oil in the hole but didn't hit the rich formation until it reached 2,048 feet. It is 45 feet higher structurally than the same company's No. 1 Hughes, which was a 40-bbl. pumper at 2,067-93 feet. This may mean that a local faulted condition exists.

The Marland Oil Co.'s No. 7 Burleson, in Section 100 of the T. C. Jones Survey, about 4½ miles southeast of the Dixie's gusher, and located southeast of the erratic No. 8 Burleson, flowed 70 bbls. the first hour on June 29, and averaged about 20 bbls. hourly overnight then swabbed 310 bbls. the next day and 345 bbls. the second day from sand at 2,096-2,130 feet; No. 6 Burleson swabbed 240, 205 and 350 bbls. in three consecutive days from pay at 2,114-45 feet; No. 8 performed as follows: 775 bbls. flowing June 26; 670 bbls. flowing the next day; and then swabbed 205, 565, 542 and 325 bbls.; No. 5 Burleson swabbed 239, 300 and 317 bbls. at 2,107-45 feet; No. 4 pumped 25 bbls. at 2,165-2,225 feet and was completed.

The Marland Oil Co.'s No. 3 Sanger topped the pay at 2,180 feet and after a shot of 200 quarts from 2,180-2,232 feet was cleaning out and swabbing 40 bbls.; No. 4 Sanger was completed for 40 bbls. on the pump at 2,157-2,225 feet; No. 5 Sanger was given a 200-quart shot at 2,-160-2,205 feet and was swabbing 105 bbls. The same company's No. 1-A Burleson swabbed 35 bbls. before a shot of 200 quarts placed at 2,124-64 feet and swabbed 85 bbls. afterward. No. 1-B Hughes swabbed 35 bbls. at 2,340-73 feet and was being put on the pump.

The Eastland Oil Co.'s No. 1 E. S. Hughes, in Section 12, Block 3½, C. C. S. G. & R. G. N. G. Survey, diagonally northeast across a section from the Dixie Oil Co.'s No. 2 Hughes, was dry and abandoned at 2,328 feet.

Willis, Campbell and others' (formerly Big Mesa) No. 1 University, in Section 17, Block 3 of University lands, Upton County, was abandoned at 3,425 feet. It had been shut down for some time.

In Crane County, the Marland Oil Co.'s wildcat, No. 1 "C" Hughes, which flowed 53 bbls. on June 29 from sand at 2,305-35 feet, swabbed 230 bbls. on June 30, and 152 bbls. July 1.

In Reagan County, the Big Lake Oil Co.'s No. 75 University was flowing by heads while drilling at 2,895 feet in sand topped at 2,881 feet. The lime was found at 2,743 feet. The Texon Oil & Land Co.'s No. 4 University, Group 2, was dry and abandoned at 2,454 feet. Tannehill and others' No. 1 Hill was temporarily abandoned at 3,345 feet.

### Shackelford Wildcat

A new wildcat discovery in western Shackelford County, about half a mile from the Jones County line, some excellent completions in the Dunn-Stover Pool of Brown County good for approximately 500 bbls., some record wells for the Rock Crossing Pool on the Waggoner ranch in Wilbarger County good for nearly 1,000 bbls., and the continued addition of many new tests to the already large amount of work under way in the north Texas area were the high lights of an interesting and active week.

Richardson Brothers and F. P. Zock were the discoverers of the western Shackelford wildcat pool opener and their reward comes after many difficulties. The well is No. 1 King, in Section 216, of the E. T. R. R. Survey, about 17 miles due west of Albany and fully 15 miles from production. Sand was found at 1,-883-93 feet and appeared to be hardening up and getting lighter toward the bottom so the operators decided to put the well on the pump rather than risk drilling it into water. There is no water with the oil at present, however, which tests 41 degrees and is bright green in color. There is little gas but the oil foams. The well is estimated conservatively to be good for 40 to 50 bbls. and may do better. It is thought to be on the edge of something that may turn into a good pool and has naturally stimulated activity in the entire surrounding country. The White Eagle Oil & Refining Co., Humble, Mahlstedt Oil Co. and others owning acreage around it are considering the staking of locations for new tests.

On the Jones-Shackelford County line, 2 miles north of Leuders, a new location has been staked by R. D. Logan and others for No. 1 John Snygg in the C SE SW, Section 1,777, B. B. B. & C. Survey. The White Eagle Oil & Refining Co. and the Humble Oil & Refining Co. have bought protection acreage around it.

South of the Cook Ranch Pool near Albany, the Magnolia Petroleum Co.'s No. 1 Moberly, was put on the pump and made 30 bbls. It was reported last week as having been estimated good for 75 bbls. The same company's No. 1 Midkiff had 1,000 feet of 43-degree oil and 300 feet of water in the hole from sandy lime at 4,151-66 feet.

In the Cook Ranch Pool, Roeser & Pendleton and Marland Oil Co.'s No. A-3-84 was completed for 250 bbls. at 1,-347-55 feet, and Roeser & Pendleton's No. B-4-84 had 1,000 feet of oil in the hole at 1,331-61 feet.

In Cooke County, C. C. Lanier's No. 2 Hyman had oil sand at 1,248-53 feet and swabbed oil and water when the plug was drilled out. The hole filled up about 1,-000 feet with fluid and when the bailer was run about 150 feet into the fluid it showed water with the oil. The fluid level was swabbed down and salt water appeared. It is estimated good for about 15 to 20 bbls. of 37.5 gravity crude.

In Archer County, the Pandem Oil Corp.'s No. 1 Hudson swabbed 40 bbls. in 24 hours and was being put on the pump.

In Wichita County, Stump & Co.'s No. 1 Chilson, Block 12, found a new sand for that area. The depth was 1,166-74 feet and the well is estimated at 25 bbls.

The record wells in the Rock Crossing area of Wilbarger County, previously mentioned, were brought in by the Phillips Petroleum Co. No. 5 Waggoner "NN" in Section 42, Block 4, flowed 941 bbls. the first 24 hours from sand at 2,-301-18 feet and saturated lime at 2,265-67 feet. The same company's No. 2 Waggoner "T", Section 44, Block 4, gauged 767 bbls. the first 30 hours from sand at 1,868-88 feet, total depth being 1,890 feet. The Phillips Petroleum Co. has about 6,-500 bbls. daily production in Wilbarger County now.

### Brown County

In Brown County, the Humble Oil & Refining Co.'s No. 1-C Kilgore Brothers, in the Dunn-Stover Pool, about 4 miles southwest of Rising Star, flowed 510 bbls. from sand at 1,160-78 feet. The same company's No. 1 Foster was good for 480 bbls. at 1,160-80 feet.

Other completions in Brown County

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## SHOOTING PANHANDLE FEATURE; 2 QUARTS TO EVERY INITIAL BARREL

By C. D. Lockwood
*Staff Correspondent, Texas Panhandle*

For every barrel of new production obtained in the Panhandle of Texas during the week ending Monday two quarts of nitroglycerin were exploded! And the first reports dropped from 70, the figure for last week, down to 23, the majority of which were in Gray County. Only seven wells were completed in Hutchinson County during the week, probably because some preparations for celebrating the Fourth of July in a fitting and proper manner required considerable time, but when six completed oil wells consume 1,880 quarts of nitroglycerin and yield only 1,210 bbls. of initial production after the expenditure of that much energy, it cannot be said that the week's results were good. Eight additional wells, which used up 1,050 quarts of explosive, added to the producing list, but not completed, contributed a total of 250 bbls. Add those two sets of figures together and we have 2,930 quarts of nitroglycerin exploded for 1,460 bbls. of production. This doesn't include the uncompleted wells previously shot.

### Largest Shot

The largest shots among the completions were 520 quarts placed in each of two wells. One of these was the Phillips Petroleum Co. and Pulaski Oil Co.'s No. 1 E. Cockrell, in Section 2, Block Y. This well was really shot the previous week but was engaged in cleaning and when completed this week was making 10 bbls. The charge was placed at 2,955 to 3,100 feet. The other big shot was placed this week in J. D. Ward's No. 1 E. Cockrell, Section 3, Block Y, at 2,954-3,090 feet. The well afterward made 450 bbls. both the first and second days. The Douglas Oil Co. and Cline's No. 1 J. A. Whittenburg, in Section 15, Block XO2, was shot with 320 quarts from 3,029 to 3,084 feet, total depth 3,-087 feet and looks like a 50-bbl. pumper. It swabbed 40 bbls. in the first four hours after the shot but has 45 feet of cavings in the hole. The Gibson Oil Corp.'s No. 1 Kingsland, in Section 4, Block Y, was shot with 200 quarts at 2,789 to 2,860 feet and bridged. It was being cleaned out. The J. K. Hughes Development Co.'s No. 3 Kingsland "A", in Section 6, Block Y, previously shot with 90 quarts at 2,916-66 feet, was still cleaning out but now flowing about 250 bbls. No. 6 Kingsland was newly shot with 330 quarts at 2,835-75 feet and bridged. The Marland Oil Co.'s No. 1 Belle Wisdom, in Section 35, Block M-23, was shot with 330 quarts from 2,970 to 3,050 feet after plugging back from 3,074 to 3,066 feet, and cleaned itself. It had a show of gas and before shooting was good for about 20 bbls. J. H. Middleton's No. 1 Smith was spraying 10 bbls. daily from total depth of 2,925 feet and was shut down for orders; No. 2 was fishing tools at 2,898 feet.

The Midwest Exploration Co.'s No. 3 Smith, in Section 5, Block Y, was shot with 140 quarts at 2,781-2,850 feet and bridged. It was cleaning out like the rest of them. No. 4 was drilling at 2,565 feet.

The Phillips Petroleum Co.'s No. 1 Smith was shot with 200 quarts at 2,792-2,872 feet and produced 150 bbls. initially. It is located in Section 5, Block Y. The same company's No. 3 J. A. Whittenburg, in Section 12, Block Y, was cleaning out and swabbing 25 bbls. at 2,970 feet; No. 4 J. A. Whittenburg was also swabbing 10 bbls. at 2,960 feet. W. R. Ramsey's No. 1 Johnson, in Section 3, Block I, which has been shut down for some time making 50,000,000 feet of gas at 2,240-3,061 feet, with 300 feet of water in the hole from 3,042 to 3,061 feet, was completed as a gasser. The Re-

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# Siliceous Lime Well In Tulsa County

## Riverland Co.'s Test, South of Sand Springs, Began at 48 Barrels Hourly and Made 996 Barrels the First Day

By J. L. Dwyer
*Staff Correspondent, Oklahoma Fields*

A siliceous lime well in Tulsa County south of Sand Springs, a good well in the famous old Boston Pool of southern Osage County, a scattered group of wildcat dry holes, a light well in the Tonkawa deep sand operation, and the oil fraternity called it a day and went fishing over the holiday to avoid the heat which settled down on Oklahoma.

The Riverland Oil Co. of Tulsa, a firm which has explored Tulsa County with good results, is the owner of a new well, No. 1-A Anderson, NE cor. SW NW, Section 34-19-11. This well had the siliceous lime at 2,304-8 feet and began flowing at the rate of 48 bbls. an hour. For the first day it produced 996 bbls.

The new well is southwest of the old Wilcox sand production which the Riverland company opened up, and later sold to the McCulloch Oil Co. of Okmulgee. It makes the acreage of the latter concern look very alluring for production in this deeper formation, as dry holes to the south and to the southwest of the new well influence the thought that the pool must extend to the north and northeast.

There has never been a pool of any appreciable area opened in this formation in this section of Oklahoma, and the development of the territory will be closely observed.

The Gypsy Oil Co.'s lease in the old Boston Pool furnished another boost for production when No. 29, NE cor. SW, Section 1-21-7, just across the river in Osage County, was completed in the siliceous lime found at 2,638-49 feet. The well started flowing 80 bbls. an hour through a 1-inch choke. The choke was a precaution employed against the intrusion of salt water which generally accompanies large wells in this stratum.

The Marland Oil Co. found a hole full of water in a deep wildcat in Osage County. It was No. 1, NE cor. NW, Section 11-25-3, south of the Burbank Field. Water was found in the deep sand at 3,888-3,907 feet.

In the Tonkawa deep sand field the Wentz Oil Corp.'s No. 9 Mahoney, NE cor. SW NE SE, Section 28-25-1w, had the Wilcox sand at 4,259-75 feet and made 12 bbls. an hour from this depth. This well is half a mile west of the Gypsy Oil Co.'s big well.

West of Okmulgee in the "south country," the Barnsdall Oil Co. found a dry hole in No. 3 Randall, SE cor. NW NE, Section 10-12-11. This is on the lease which was recently purchased from a group of Okmulgee operators. Water was found at 2,627 feet, in a member of the Dutcher sand formation.

In the Deep Rock Pool of Payne County, the Empire Gas & Fuel Co.'s No. 3 Liston, NW cor. NW, Section 26-18-3, made 450 bbls. from sand at 4,318-27 feet.

In Payne County, the Reiter-Foster Oil Co.'s No. 1 Kinneman, SW cor. SW, Section 14-19-1w, is drilling in shale at 4,805 feet and making 60 bbls. of oil daily.

South of Weleetka in Okfuskee County, the X-Ray Oil Co., an Okmulgee concern, has apparently opened up some new production in the Jefferson sand, a formation which has been considered a branch of the Dutcher. The new well is No. 1, NW cor. SW NE, Section 21-10-11, and sand was topped at 2,878 feet with a good showing of oil estimated at 90 bbls. daily.

In the Wewoka deep sand the Amerada Petroleum Corp.'s No. 7 Fredrick, SW cor. NE, Section 5-7-8, made 70 bbls. an hour from sand at 4,138-53 feet.

In Seminole County, the Indian Territory Illuminating Oil Co.'s No. 8 Carter, SE cor. SW NE, Section 24-9-6, swabbed 48 bbls. in 7 hours from sand at 3,993-4,012 feet.

### Osage Developments

Waite & Faltinson are drilling at 850 feet in No. 16, NE cor. SE NE, Section 13-21-12, in Osage County.

Keener Oil Co.'s No. 11, C SW NE, Section 15-29-10, had sand at 997-1,024 feet and made 15 bbls. after a shot of 120 quarts. No. 13, C SE NE, Section 18-29-10, had sand at 1,032-50 feet and made 20 bbls. after a shot of 120 quarts. No. 12, NW cor. SE NE, Section 15-29-10, made 18 bbls. after a shot of 100 quarts in sand at 1,050-60 feet. No. 14, CWL SW NE, Section 15-29-10, made 20 bbls. after a shot of 120 quarts in sand at 1,008-38 feet. No. 15, C south half NE Section 15-29-10, had sand at 988-1,022 feet and made 25 bbls. after being shot with 120 quarts. No. 16, SW cor. NE, Section 15-29-10, is rigging up.

H. D. Simons is shut down at 789 feet in No. 1, NW cor. NE, Section 25-29-11. Noble Oil & Gas Co.'s No. 1, SE cor. SE, Section 32-29-11, is dry and abandoned at 1,145 feet. Reiter-Foster Oil Co. is drilling the big lime topped at 1,045 feet in No. 1, SW cor. SE NW, Section 33-29-11. Delmar Oil Co. is drilling at 750 feet in No. 1, SE cor. SW, Section 12-28-11. C. O. Ross has completed No. 1-A, NE cor. NW NW, Section 31-28-11, for 6 bbls. after a shot of 100 quarts in sand at 1,087-1,132 feet. Pure Oil Co.'s No. 87, C NW NE, Section 11-27-10, made 50 bbls. after being shot with 170 quarts in sand at 1,265-1,325 feet. Osage Gas Producing Co. has a machine moved in for No. 367, SW cor. SE, Section 8-27-11.

C. O. Ross' No. 1, NE cor. SE SW, Section 10-27-11, made 8 bbls. after a shot of 100 quarts in sand at 1,087-1,129 feet. Dryson and others are drilling at 1,780 feet in No. 2, NE cor. SE NW, Section 21-27-12. Ohio-Osage Co. is shut down at 719 feet in No. 2, NW cor. NE SE, Section 32-26-11. Skelton & Moore's No. 9, SW cor. NW SE, Section 32-26-12, had sand at 1,564-89 feet and made 60 bbls. after a shot of 100 quarts. A. G. Oliphant and others are drilling deeper in No. 1-A, SW cor. SE SE, Section 19-25-8, where a sand found at 2,452-61 feet made 20 bbls. after a shot of 10 quarts. No. 2, C south half SE, Section 19-25-8, had sand at 1,127-37 feet and made 35 bbls. after a shot of 40 quarts. Lewis Oil Co.'s No. 1, CEL SE NE, Section 30-25-8, had sand at 2,480-2,505 feet and made 250 bbls. naturally. No. 3, NW cor. SE NE, Section 30-25-8, is spudded. New England Oil & Pipe Line Co.'s No. 1, NW cor. NW, Section 30-25-8, is drilling at 2,465 feet. Douglas Oil Co. has a rig up for No. 1, SW cor. NW, Section 5-24-8. Amerada Petroleum Corp. has a rig up for No. 1, CWL SW, Section 5-24-8. The Texas Company has a rig up for No. 2, SW cor. NW NE, Section 15-24-8.

Marland Oil Co. and others have abandoned No. 5, NE cor. SE NE, Section 16-24-8, at 540 feet. Continental Oil Co. and others' No. 5, NW cor. SE SE, Section 29-24-8, is dry and abandoned at 2,633 feet. The rig is up for No. 3-A, NE cor. NE, Section 32-24-8. Prairie Oil & Gas Co. and the Continental Oil Co. are drilling at 885 feet with 750,000 feet of gas in No. 3, SE cor. NE SW, Section 33-24-9. Western American Co. is drilling at 1,190 feet in the Cleveland sand in No. 1, SW cor. SW, Section 22-24-10. Wynona Oil Co.'s No. 3, CSL SW SW, Section 27-24-10, had sand at 1,272-92 feet and made 25 bbls. after a shot of 80 quarts. Peters and others' No. 5, CEL SE, Section 28-24-10, had sand at 1,374-92 feet and made 25 bbls. after a shot of 60 quarts. Roxana Petroleum Corp. and others' No. 4, CWL SE, Section 1-24-11, had sand at 1,641-1,745 feet and made 13 bbls. after a shot of 120 quarts. Pure Oil Co.'s No. 148, C south half SW NE, Section 5-23-8, had sand at 1,185-1,212 feet and produced 25 bbls. the first 24 hours. Twin State Oil Co. has a rig up for No. 1, NE cor. NE, Section 12-23-8. Mid-Kansas Oil Co.'s No. 1-A, SW cor. SW, Section 36-22-8. had sand at 2,321-40 feet and started at 12 bbls. naturally. Continental Oil Co. and the Prairie Oil & Gas Co.'s No. 3, C NW SE, Section 5-23-9, found 5,000,000 feet of gas at 710 feet and is drilling deeper.

American Oil & Development Co.'s No. 21, NE cor. SW NE, Section 13-23-10, made 25 bbls. in 24 hours after a shot of 180 quarts from sand at 1,773-1,853 feet. Mid-Continent Petroleum Corp. has the rig up for No. 1, NW cor. NE NE, Section 28-23-10. Starling and others have spudded No. 7, SE cor. NE SE, Section 1-22-9. Pure Oil Co.'s No. 1, SE cor. NW, Section 16-22-9, is dry and abandoned at 2,717 feet. J. G. Glenn's No. 1, SW cor. NW, Section 4-22-10, is dry at 2,410 feet. J. H. Winemiller has a hole full of water in the top of the Wilcox sand at 1,896 feet in No. 4, C south half NW SW, Section 20-22-10. Bradford Tank Co.'s No. 3, CEL NE SW, Section 23-22-10, had a show of oil in the Bartlesville sand at 1,793 feet and is drilling at 1,825 feet. It may be plugged. Tidal-Osage Oil Co.'s No. 26, CNL NW, Section 33-20-10, made 6 bbls. from a total depth of 2,614 feet after a shot of 40 quarts. No. 18, SW cor. NE SW, Section 34-22-10, had sand at 1,136-1,237 feet with a show of oil which will be shot. Silurian Oil Co. has spudded No. 49, C south half SE NW, Section 17-23-12. Nadle and others have spudded No. 9, NW cor. SE SE, Section 18-22-11. Ray Branstetter's No. 2, CSL SE, Section 23-22-11, had sand at 1,687-93 feet and made 40 bbls. the first day.

Mercer and others have a machine in for No. 9, SW cor. SE SE, Section 16-21-12. Kewanee Oil & Gas Co. has the rig up for No. 1, CNL NW NW, Section 17-21-12. No. 8, CSL SE NW, Section 19-21-12, is fishing at 2,107 feet. Tidal Oil Co. is drilling at 375 feet in No. 2, CSL SW NW, Section 22-21-12. Commercial Drilling Co.'s No. 3, NW cor. NE SW, Section 22-21-12, is drilling at 915 feet. Barnsdall Oil Co. has spudded No. 18, CEL SE SE, Section 30-21-12. Pioneer Petroleum Co.'s No. 7, CSL SE NW, Section 3-20-11, had sand at 1,697-1,720 feet and made 30 bbls. after a shot of 40 quarts. No. 8, C south half NW, Section 5-20-11, is spudded. Sand Springs Home's No. 93, C SE, Section 30-20-11, is dry and abandoned at 2,425 feet. No. 2, CEL NW NE, Section 31-20-11, is spudded with a machine. Echo Oil Co.'s No. 1, CNL NW, Section 35-20-11, is dry and abandoned at 2,650 feet.

### One Good Well in Creek County

R. L. Jennings is fishing at 200 feet in No. 1, NW cor. SE, Section 36-15-7, Creek County. Skelly Oil Co.'s No. 14, NW cor. NE, Section 12-14-8, had sand at 2,394-2,438 feet and made 32 bbls. naturally. It was shot with 100 quarts and made 50 bbls. C. G. Tibbens' No. 2, SW cor. SE NE, Section 13-14-8, had sand at 2,336-76 feet and was estimated at 20 bbls. It is to be shot. West and others have abandoned the location for No. 1, NE cor. NW SW, Section 17-14-8. C. G. Tibbens has rigged up No. 30 Connetsenny, SE cor. SW NE, Section 30-15-9. The rig is built for No. 31 Connetsenny, NE cor. NW SE, Section 30-15-9. Stebbins and others have abandoned No. 1, SE cor. SW, Section 17-14-9, at 3,974 feet. Wood Oil Co.'s No. 1, NW cor. NE, Section 36-14-9, is drilling at 1,500 feet.

Atlantic Oil Producing Co.'s No. 1, SE cor. NE NW, Section 16-14-10, had sand at 3,226-42 feet and made 800 bbls. initially. It is now making 600 bbls. The rig is in for the same company's No. 1 Mary Tiger, SW cor. NE, Section 16-14-10, and also for No. 2 Mary Tiger, NW cor. SW NE, Section 16-14-10. T. B. Slick is drilling at 1,250 feet in No. 2 NE cor. NW NE, Section 20-14-10. H. F. Wilcox Oil & Gas Co. has built the rig for No. 13 Scott, NW cor. NE NE, Section 20-14-10. M. P. Evans has rigged up No. 1 Harjo, SE cor. SW, Section 25-14-10, and the Empire Gas & Fuel Co. No. 2 Fixico, NE cor. NW SW, Section 32-14-10.

Savoy Oil Co.'s No. 5 Johnson, C NW SE, Section 22-17-8, had sand at 2,340-73 feet and it started at 26 bbls. after shots of 50 and 80 quarts. The rig is up for No. 6 Johnson, SW cor. NE SE, Section 22-17-8. Peters Petroleum Co.'s No. 3, NE cor. SE NE, Section 21-16-8, is drilling on top of the Dutcher sand at 3,165 feet, with 5,500,000 feet of gas. D. B. Mason's No. 5, SW cor. SE NW, Section 23-16-8, is drilling at 890 feet. Prairie Oil & Gas Co.'s No. 2, NE cor. SE SW, Section 3-17-9, had sand at 2,010-40 feet and made 115 bbls. after a shot of 60 quarts. The Texas Company's No. 2, NW cor. SW SE, Section 3-17-9, is shut down at 160 feet with a show of gas. No. 3, SE cor. SW SE, Section 3-17-9, is drilling at 750 feet.

McCulloch Oil Co.'s No. 1, NW cor. SE, Section 4-17-10, is spudded. O. M. Ireland's No. 1, NE cor. NW SW, Section 11-17-10, is drilling at 890 feet. M. P. Evans has a dry hole at 3,110 feet in No. 1, SW cor. NW NW, Section 16-17-10. A. B. Ice's No. 3, CSL NE SE, Section 19-17-10, is dry at 2,200 feet. The Texas Company's No. 1, SE cor. SW SW, Section 19-17-10, is dry at 3,370 feet. F. C. Adams is drilling at 600 feet in No. 2, CWL NW SW, Section 20-17-10. Eastern Oil Co.'s No. 1, C NW NW Section 23-17-10, is dry at 2,890 feet. Kirchner and others have a failure at 2,917 feet in No. 1-A, SW cor. SE NE, Section 23-17-10.

Brocker & Warren are drilling at 200 feet in No. 2, SW cor. NW SW, Section 24-17-10. Mid-Continent Petroleum Co.'s No. 1 Dawson, CSL NW NW SW, Section 24-17-10, is rigging up. The rig is being built for No. 2 Dawson, NE cor. NW SW, Section 24-17-10. J. H. Wright's No. 9, CNL SE NW, Section 24-17-10, is drilling at 950 feet. No. 9, NW cor. SE SE, Section 24-17-10, had sand at 1,808-46 feet and made 35 bbls. after a shot of 100 quarts. No. 11, CNL NW SE, Section 24-17-10, is rigged up. O. M. Ireland is drilling at 450 feet in No. 1-A, C south half NE NW, Section 25-17-10. In the Bristow region the Jomack Oil Co. has a dry hole at 2,715 feet in No. 2, SW cor. NW SW, Section 21-16-9.

Gled Oil Co.'s No. 3, SE cor. NW NW, Section 13-19-8, had sand at 2,390-2,410 feet and made 40 bbls. No. 4, CEL SE SW, Section 13-19-8, is drilling at 475 feet. The Texas Company's No. 2, CWL SW SE, Section 13-19-8, is spudded. Devonian Oil Co.'s No. 2, CEL SE NE, Section 14-19-8, had sand at 2,879-85 feet and made 60 bbls. after being shot with three and one-half quarts. No. 3, SE cor. NE, Section 14-19-8, had sand at 2,410-15 feet and made 250 bbls. naturally. J. B. Grieves has rigged up No. 1 Grayson, NW cor. NE, Section 24-19-8. J. O. Walters is drilling at 1,200 feet in No. 1, SE cor. NE SE, Section 30-18-8.

Mid-Continent Petroleum Corp.'s No. 26 Cole, SE cor. SW SW, Section 15-17-7, is a rig. Prairie Oil & Gas Co. is rigging up No. 40 Litchfield, NE cor. NW NW, Section 22-17-7. Peters Pe-

troleum Co. will complete No. 3, NE cor. SE NE, Section 21-16-8, as a gas well. Sand was at 3,164-68 feet and the well is shut in with 6,500,000 feet of gas. Sheridan Oil Co.'s No. 2, NW cor. NW, Section 2-18-11, had sand at 2,410-37 feet and made 20 bbls. after a shot of 40 quarts. W. J. Cole and others have spudded No. 2, SE cor. NE NW, Section 22-18-11. Sherman and others have spudded No. 3-A Barnett, SW cor. NE SE, Section 1-18-12. Devonian Oil Co. has rigged up No. 2 Saunders, CWL NE SE, Section 4-18-12. H. E. Henson and others have rigged up No. 2 Sizemore, NE cor. NW NE, Section 5-18-12. Day Brothers have completed No. 1-A, NW cor. SW NE, Section 6-18-12, for 2,000,000 feet of gas from sand at 1,698-1,712 feet. No. 3-A, SW cor. NW NE, Section 6-18-12, had a machine rigging up. Regal Oil & Gas Co.'s No. 26, CNL NE SW, Section 6-18-12, had sand at 2,003-12 feet and made 135 bbls. after a shot of 20 quarts. O. M. Ireland's No. 7, CEL SW SE, Section 8-17-11, is drilling at 750 feet. Shaffer Oil & Refining Co. has the rig up for No. 6 Wa-Co-She, NE cor. NE, Section 17-17-11. Ike Simmons' No. 2, CNL NW SE, Section 28-17-11, had sand at 1,628-43 feet and made 25 bbls. after a shot of 20 quarts. Transcontinental Oil Co.'s No. 4, NE cor. SW NE Section 28-17-11, is dry and abandoned at 1,825 feet. Johnson & Ash have abandoned the location for No. 1, SW cor. SE, Section 9-14-10. The rig is on the ground for No. 1 Tiger, SE cor. SW, Section 9-14-10.

**Work in Carter County**

The Amerada Petroleum Corp.'s No. 15, NE cor. SE NW, Section 28-5s-1, Carter County, had sand at 1,121-35 feet and swabbed 100 bbls. Schermerhorn and others' No. 2, SW cor. NW NE, Section 8-3s-2w, had a series of broken sands from 2,280-3,121 feet and pumped 80 bbls. W. C. Patterson and others' No. 3, NE cor. NW SW, Section 35-3s-2w, is dry and abandoned at 590 feet.

Magnolia Petroleum Co.'s No. 2, SE cor. NE SE, Section 33-1s-3w, had gas sand at 1,970-82 feet and is estimated at 15,000,000 feet. No. 4, NE cor. SE, Section 33-1s-3w, is drilling at 650 feet. The rig is up for No. 5 Bumpass, SW cor. NE SE, Section 33-1s-3w. Gilmer Oil Co.'s No. 3, NW cor. SW NE, Section 34-1s-3w, had sand at 3,110-20 feet and a total depth of 3,330 feet. It made 120 bbls. on the pump after a shot of 45 quarts. Humble Oil & Refining Co.'s No. 2, SW cor. SW, Section 34-1s-3w, had sand at 2,251-64 feet with 20,000,000 feet of gas. No. 3, NW cor. SW SW, Section 34-1s-3w, had the top of the gas sand at 2,017 feet and is estimated at 25,000,000 feet. The drill pipe is stuck. Magnolia Petroleum Co.'s No. 7, SW cor. SE SW, Section 34-1s-3w, is drilling at 850 feet. The rig is up for No. 3, McClish, SE cor. NW SW, Section 34-1s-3w.

Westheimer & Daube's No. 2, SE cor. NE, Section 34-1s-3w, topped sand at 1,753 feet and blew in with 15,000,000 feet of gas. The Prairie Oil & Gas Co. and others' No. 6, NE cor. NW NW, Section 3-2s-3w, is drilling at 600 feet. Magnolia Petroleum Co.'s No. 1, NW cor. NE, Section 3-2s-3w, cored a sand found at 2,267-76 feet and the well is estimated at 4 bbls. Skelly Oil Co. has built a rotary rig for No. 1 Smith, NW cor. SE, Section 3-2s-3w. Pure Oil Co. has rigged up a rotary for No. 2 Kennedy, NE cor. SE NE, Section 12-2s-3w. Skelly Oil Co. has abandoned the location for No. 3, SW cor. NW SW, Section 8-2s-2w. The location for No. 4, NW cor. SW, Section 8-2s-2w, is also abandoned. Magnolia Petroleum Co. has built a standard rig for No. 1 Cox, SE cor. NE, Section 16-2s-2w.

In Pawnee County the Magnolia Petroleum Co.'s No. 1, SW cor. SE, Section 28-20-5, is spudded. Mid-Continent Petroleum Co. has rigged up No. 21 School Land, NW cor. NE SW, Section 16-20-7. Ora Steen and others have abandoned No. 1, CSL SW SE, Section 24-20-7 at 2,730 feet. C. H. Burton's No. 3, CNL SE NW, Section 25-20-7, had sand at 2,513-40 feet and made 30 bbls. after a shot of 80 quarts. Smith and others are drilling at 700 feet in No. 1, NE cor. NW, Section 27-20-7. Prairie Oil & Gas Co.'s No. 3, NE cor. SE NW, Section 6-20-8, had sand at 2,581-2,623 feet and made 125 bbls. naturally. Producers & Refiners Corp.'s No. 6, SE cor. SW, Section 6-20-8, made 25 bbls. after a shot of 60 quarts in sand at 2,204-30 feet. Skelly Oil Co. and others are drilling at 1,575 feet in No. 5, SW cor. SE, Section 3-21-9. W. S. Mindell and others' No. 2, NE cor. SW NW, Section 7-21-9, had sand at 534-557 feet and made 40 bbls. after a shot of 50 quarts.

Devonian Oil Co.'s No. 1, SW cor. SE NE, Section 24-21-9, had sand at 2,509-23 feet with 600 feet of oil in the hole. It is drilling deeper. Oklahoma Natural Gas Co.'s No. 712, C south half SE SW, Section 2-21-10, is drilling at 456 feet with 300,000 feet of gas. Lillystrand and others have a rig up for No. 4, NE cor. NW, Section 14-21-10. Devonian Oil Co.'s No. 3, CSL SW NE SW, Section 27-21-10, is drilling at 840 feet. Glenn Oil Co. is drilling at 1,150 feet in No. 1, NW cor. NW, Section 33-21-10. New England Oil & Pipe Line Co. has a dry hole at 2,646 feet in No. 1, SW cor. NW, Section 2-20-10.

**Okmulgee County**

Iron Mountain Oil Co.'s No. 7, CWL SW NW, Section 3-15-11, had sand at 2,008-42 feet and made 15 bbls. after a shot of 40 quarts. R. L. Slater has spudded No. 1 Jefferson, CWL NE NE, Section 19-15-12. Sam Bright has a dry hole at 1,875 feet in No. 4, SE cor. SW SW, Section 26-15-12. Sidwell Drilling Co. has built the rig for No. 1 Lunsford, SW cor. NW SW, Section 4-14-11. J. H. Rebold's No. 4, SE cor. NW SE, Section 5-14-11, is drilling at 940 feet. No. 5, SW cor. NE SE, Section 5-14-11, is drilling at 1,025 feet. W. T. Campbell and others' No. 1, NW cor. SE NE, Section 4-14-12, had sand at 2,680-93 feet and made 90 bbls. after a shot of 40 quarts. Kingwood Oil Co. has a machine on the ground for No. 1-W, SW cor. NE SW, Section 11-14-12. J. H. Rebold has a rig on the ground for No. 1 Kanard, SW cor. SE SW, Section 25-14-12.

Red Bank Oil Co.'s No. 1, NW cor. SW SW, Section 10-15-12, is drilling at 750 feet. Gray Oil Co.'s No. 1, SW cor. SE SW, Section 33-15-13, is dry and abandoned at 2,677 feet. A. W. Klein and others' No. 1, NE cor. SE NW, Section 19-15-14, is dry at 2,260 feet. The Texas Company has completed No. 13, NW cor. NE, Section 21-15-14, for 475 bbls. in sand at 2,285-94 feet. Sperry & Mills have a rig up for No. 3 McClary, NW cor. SW SW, Section 7-14-13. E. T. McDowell and others have a dry hole in No. 1, NW cor. SW SE, Section 14-14-13, which is abandoned at 2,572 feet. W. A. George and others are rigging up a machine for No. 13 Stevens, NW cor. SW NE, Section 9-14-14. Jim Wallace and others have rigged up a machine for No. 4 Colebrt, NE cor. NW NE, Section 14-14-14. Perkins and others' No. 12-A, NW cor. SE NE, Section 20-14-14, is dry at 1,225 feet. Joe Gardner and others' No. 2, SE cor. SE, Section 32-14-14, is drilling at 1,250 feet. Link Oil Co.'s No. 5, SW cor. NE NE, Section 28-15-15, is drilling at 850 feet. E. A. Hutchinson has a gas well in No. 1-A, SE cor. NW NE, Section 31-15-15. Sand was at 1,557-65 feet and the well is shut in with 10,000,000 feet.

E. J. Lambert has a machine on the ground for No. 2 Doyle, NW cor. SE SW, Section 21-13-14. Cusack & Charon have completed No. 4, CEL SE NW, Section 29-13-14, for 40 bbls. after a shot of 80 quarts in sand at 1,568-1,602 feet. O. J. Stout and others are cleaning out at 1,342 feet in No. 2, SE cor. NE NE, Section 28-15-13.

John Droppleman and others have a gas well in No. 3, SE cor. SW NE, Section 4-11-12. Sand was at 1,508-83 feet and the well is shut in with 8,000,000 feet. C. O. Buckles and others have a machine on the ground for No. 4 Jacobs, NE cor. NE, Section 6-11-12. Moffitt & Slick are rigging up to drill an old well deeper in No. 6 Hawkins, C SE, Section 6-11-12.

Kinnear and others' No. 3 Cotanny, CWL SE NW, Section 31-16-11, had a show of oil in the Dutcher sand at 2,625 feet. Sheridan Oil & Gas Co. is rigging up No. 2 Peters, SE cor. SW SW, Section 34-16-11. S. W. Anthony's No. 3, CWL SE NW, Section 3-16-12, is temporarily abandoned at 1,700 feet.

Moffitt & Slick have a rig on the ground for No. 8 Holmes, CEL NW NE, Section 7-11-12. F. L. Dunn and others have a dry hole at 3,608 feet in No. 1, SW cor. NE NW, Section 6-11-12.

**Muskogee County**

C. W. Bradley's No. 3, SW cor. NW SW, Section 5-14-19, Muskogee County, is dry and abandoned at 1,035 feet. Jolly & Ogg are drilling at 700 feet in No. 1, CWL NE NW, Section 2-14-18. Cumberland Petroleum Co. has spudded No. 2, NE cor. SW SW, Section 5-14-19.

**480-Bbl. Well in 19-10**

The Texas Company's No. 1 Hayden, SE cor. NE SW, Section 10-19-10, Tulsa County, is rigging up. Glidden and others are drilling at 1,950 feet in No. 1 Robinson, SW cor. SE SW, Section 14-19-10, an old well drilled deeper. W. E. Brown's No. 3, C NE SW, Section 23-19-10, had sand at 1,938-93 feet and made 480 bbls. after a shot of 360 quarts. The machine is in for No. 4 Postoak, NW cor. SE SW, Section 23-19-10. Holmes & McMahon have a dry hole at 2,746 feet in No. 1, NW cor. SE, Section 23-19-10. Red Bank Oil Co. has a machine in for No. 4 Postoak, SW cor. SW, Section 23-19-10. Bu-Vi-Bar Petroleum Co. has a machine rigging up for No. 1 Kiefer, NW cor. NE SW, Section 33-19-10.

Commercial Drilling Co.'s No. 5, NW cor. SE, Section 19-19-11, had sand at 1,970-92 feet and made 15 bbls. naturally. Sand Springs Home's No. 2, SW cor. NW, Section 24-19-11, is drilling at 950 feet. J. W. Shreve and others' No. 12, C north half NE NE, Section 32-19-13, is drilling at 600 feet. Elm Oil & Gas Co.'s No. 2-A Island, SE cor. NE NE, Section 25-18-14, is rigging up.

Suppes and others have a machine in for No. 1-A Rickets, SW cor. NW, Section 5-17-13. E. A. Thawley has a machine in for No. 1 Taylor, SE cor. NE, Section 1-17-13. Pettit and others are drilling at 750 feet in No. 3 Perryman, CNL NE NW, Section 9-17-14. Thompson & Black's No. 7, CNL SW SW, Section 5-16-13, is drilling at 860 feet. J. S. Cates' No. 6, NE cor. SE NE, Section 13-16-13, had sand at 1,500-15 feet and swabbed 100 bbls. McCulloch Oil Co and others' No. 1, NE cor. NW SE, Section 29-16-13, is dry at 2,250 feet. Little and others' No. 15, NE cor. NW SW, Section 2-16-14, is spudded and shut down. Shaffer Oil & Refining Co.'s No. 4, SW cor. NW NW, Section 18-16-14, is dry and abandoned at 2,283 feet.

**Okfuskee County**

Prairie Oil & Gas Co.'s No. 1, SE cor. SW, Section 26-11-9, Okfuskee County, is drilling at 750 feet. E. L. Robinson and others' No. 1, NE cor. NW SE, Section 35-11-9, made 12 bbls. an hour from sand at 3,190-92 feet. Sinclair Oil & Gas Co.'s No. 1, NW cor. SW, Section 36-11-9, had 8,000,000 feet of dry gas in sand at 2,905-15 feet. Devonian Oil Co.'s No. 2, SW cor. NE, Section 8-10-8, is drilling at 450 feet. H. F. Wilcox Oil & Gas Co. has a dry hole at 4,048 feet in No. 1, NE cor. SW SW, Section 1-11-8.

Roxana Petroleum Corp. and others have built a rig for No. 1 Sullivan, NW cor. NW, Section 19-10-11. Prairie Oil & Gas Co.'s No. 1 Hooks, NE cor. SE NW, Section 10-12-11, is rigging up. Josey Oil Co. is drilling at 259 feet in No. 4, CWL SE NE, Section 32-12-11. Lennox Oil Co. is drilling at 950 feet in No. 1, NW cor. NE, Section 3-11-9. Minnehoma Oil Co. had 8,000,000 feet of dry gas in sand at 2,915-55 feet in No. 1, SW cor. NW, Section 36-11-9.

Cooper & Donnelly have a rig on the ground for No. 1 Micco, NW cor. NE NE, Section 7-13-10, Okfuskee County. Barnsdall Oil Co. has a rig on the ground for No. 5 Morgan, NW cor. SW SE, Section 3-12-11. Amerada Petroleum Corp. has a rig up for No. 15 Harjo, CSL NW

(Continued on Page 109)

# WINFIELD, KANSAS, WELL HOLDS UP; LYONS COUNTY PRODUCER, 200 BBLS.

By J. L. Dwyer
*Staff Correspondent, Kansas Fields*

The holding up of the new J. A. Hull and Shaffer Oil Co.'s siliceous lime well north of Winfield in Cowley County, and another well completed in the Lyons County Pool were the chief events of the past week in Kansas.

The Hull well (No. 1 School Land, SW cor. NW NE, Section 15-32-4) is maintaining a good rate of flow and averaged 700 bbls. daily for the past week. It is now 10 days old. No water has appeared in the well to date, and the good performance has caused much acreage to change hands. One lease half a mile from the well sold for a price reported at $300 per acre cash and $300 per acre in oil.

The McCulloch Oil Co., which opened the Lyons County Pool, has another well reported under Lyons County operations. The new well is making 200 bbls. daily from the 2,500-foot sand. The only objection to the oil in this pool is the low pravity of 25 degrees which has been uniform throughout the region. On account of the gravity, there has been little demand for this oil in the pipelines, and most of it has been sold to railroad companies who have utilized it for fuel oil. The pool might well be called the fuel oil pool.

Butler County offers several new wells in old regions. The Towanda and El Dorado regions continue to furnish new wells to offset the settling of old production.

Greenwood County reports only inside wells and wells which extend the producing areas one location. There is a slowing up of activities in Greenwood which has been the scene of the bulk of Kansas operations for some time.

**Butler County**

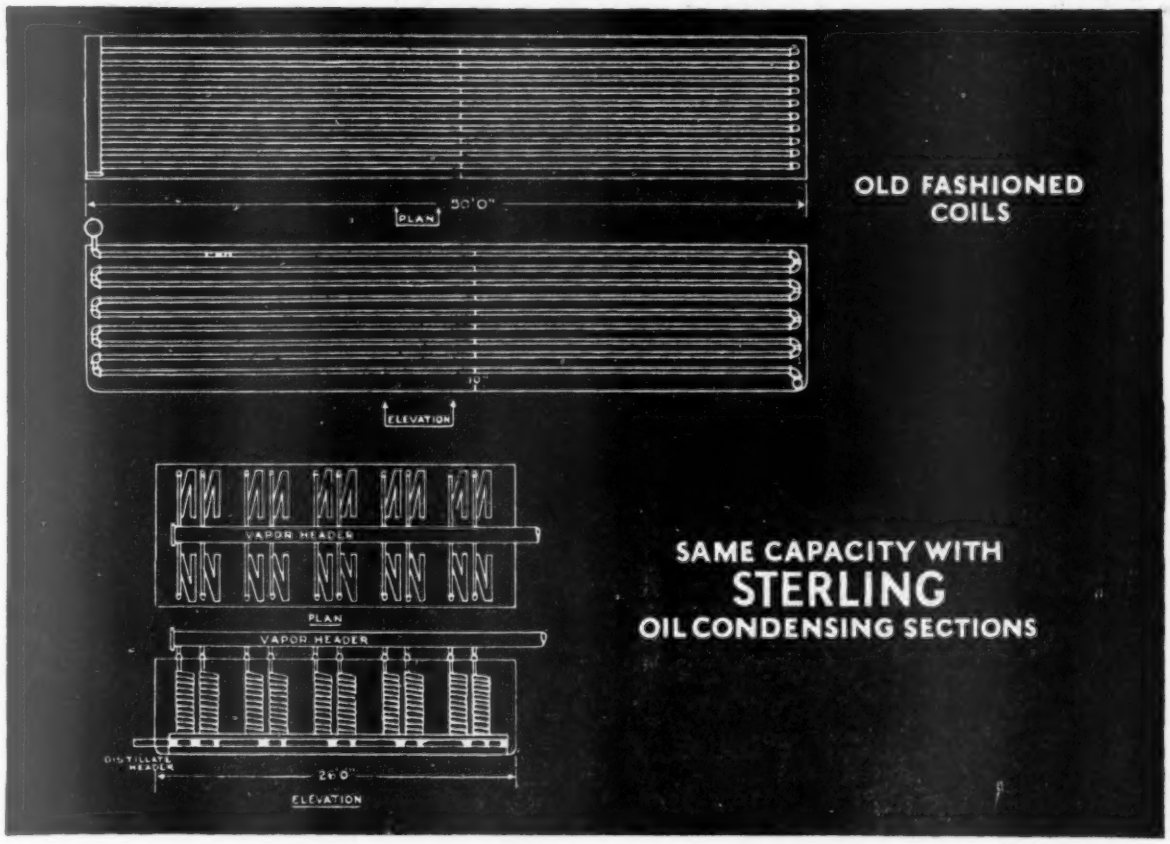
The Manhattan Oil Co. has a dry hole at 2,800 feet in No. 1, NE cor. NE, Section 29-24-7, Butler County. Joe Liggett and others' No. 1, NW cor. SE, Section 22-25-7, is dry at 2,795 feet. Empire Gas & Fuel Co.'s No. 164, NW cor. SW NW, Section 8-25-5, had sand at 2,398-2,450 feet and made 185 bbls. Empire Gas & Fuel Co. has a rig on the ground for No. 5 Young, SW cor. NE, Section 27-26-7. Phillips Petroleum Co. has a failure at 3,080 feet in No. 2, NE cor. SE SW, Section 27-26-7. White Eagle Oil Co.'s No. 6, SW cor. NW SE, Section 27-26-7, had sand at 2,150-60 feet and made 25 bbls. W. Hoyt and others' No. 2 Bwollner, CSL SE NE, Section 19-27-6, dry at 3,158 feet. Joe Liggett and others' No. 2, SE cor. NE, Section 36-27-6, is dry and abandoned at 3,295 feet. Mid-Kansas Oil Co. is drilling at 425 feet in No. 2, NW cor. SW NW, Section 23-27-7, is drilling at 850 feet.

Manhattan Oil Co. has a rig on the ground for No. 6 Jobe, NW cor. SE SE, Section 26-27-7. Tidal Oil Co.'s No. 34, SE cor. SW SE, Section 16-26-8, had sand at 2,476-2,504 feet and made 40 bbls. after a shot of 60 quarts. John Rodgers has a dry hole at 2,805 feet in No. 2, SW cor. Lot 27, Section 6-27-8. Empire Gas & Fuel Co. has the rig up for No. 31 Love, NE cor. NW NW, Section 29-28-4. Allison & Fitzwilliams' No. 2, SE cor. NE NW, Section 3-28-6, was abandoned as dry at 3,145 feet. Tom Johnson's No. 1, NE cor. SW, Section 3-28-6, had sand at 3,050-55 feet and made 318 bbls. the first 24 hours on the swab. The Texas Company's No. 1, SW cor. NE, Section 3-28-6, is dry and abandoned at 3,102 feet. Smith & Ash have a dry hole in No. 1, SE cor. SW SE, Section 34-29-4, at 2,950 feet.

**Greenwood County**

Manhattan Oil Co. has the rig up for No. 3 Scott, NE cor. NW, Section 24-23-8. Manhattan Oil Co. and Phillips

(Continued on Page 97)

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# Keen Competition for Smackover Oil

## Declining Production Makes it Hard for Smaller Buyers to Fill Requirements. Urania Has a North Extension

By James H. Dameron
*Staff Correspondent, Louisiana-Arkansas*

SHREVEPORT, La., July 3.—A quarter of a mile extension of Urania, outside wells in Lisbon, Ark., and another gas well in the Trinity horizon of Caddo Parish were the bright spots in the district's field activities during the past week.

The latest extension well in Urania was to the north by McGaha and associates' No. 1 Urania, SE cor. NE NE, Section 7-10-2e, which is making 25 bbls. naturally. It also brings production to within a quarter of a mile of the north boundary of Section 7. Tests miles from the proven territory were failures.

In the south extension of the field, the second well to be completed there, and by the Montague Oil Co., in Section 11-9-1e, went into salt water. It came in for about 100 bbls. initial production, but went to water a few days later. The extension well continues to be a fair producer.

The third well in the new territory was brought in by George W. Wetherbee, Shreveport operator, in Section 2-9-1e, north of the Montague well, and is flowing 75 bbls. of oil daily with a little water showing. Both wells were drilled into 3 feet of sand topped at 1,497 feet.

Outstanding of the trades in Urania last week was the purchase by Keene & Woolf of the Beckman and Freeman Tullos townsite properties. The lease has a daily production of 340 bbls. from wells on the 28-acre lease. It is reported the purchasers paid $200 a barrel for the property based on the 340-bbl. daily production, or $68,000.

Another buyer entered the field when the Deepwater Oil & Refining Co. of Houston, Tex., started buying oil in Urania. The new buyers are reported to be offering small premiums. The Deepwater company is at present shipping four cars daily from Urania.

In the Lisbon, Arkansas Field, the Atlantic Oil Producing Co. started operating its newly purchased property which was bought from Wingfield & James for a figure reported to be a little above $1,000,000. It is reported the Atlantic paid $600,000 cash and the balance in oil for the lease which has 1,500 bbls. daily production and two wells drilling. Southwest of Lisbon production, about a quarter of a mile, oil production was cut off by a 500,000-foot gasser drilled by Summerfield and associates on the Jackson lease.

Almost all of Lisbon's new wells were small pumpers. The field now has 197 wells producing an average of 52 bbls. at each well. New work is keeping pace with completions in the field.

The Smackover deep area, extended several weeks ago by H. L. Hunt, is showing little promise. It is in Section 28-16-16. The extension well was completed into a good pumper. But Hunt's second well was menaced by salt water. Another nearby well was drilled to 3,000 feet and was dry, while a third, in the sand, is being menaced by salt water. Efforts are being made to plug off the water in the latter well.

### Deep Tests Dry

East of Lisbon, McGaha and associates' No. 1 Haney, Section 11-17-16, was a duster at 3,020 feet, and Hickman and associates' No. 1 Slaughter, Section 3-17-16, deep Lisbon test, was abandoned at 2,951 feet.

The rank wildcat territory of Arkansas is getting a revivified play. Especially in Lafayette County where operators have been given some encouragement by the Arkansas Fuel Oil Co.'s drilling around Bradley. Bradley County is also getting another play of wildcatting.

Caddo Parish had another Trinity horizon gas well added when Dixie Oil Co.'s No. 71 Robertshaw, Section 14-21-15, was completed in a lime formation at 3,663 feet. The well gauged 25,250,000 feet and has been shut in.

In Bellevue Parish, Arkansas Fuel Oil Co.'s No. 1 Murray, Section 14-23-14, was dry and abandoned at 3,772 feet.

### Competing for Smackover Crude

With the decline of Smackover crude and coupled with the fact that little new production is coming in and no new fields in sight, competition for crude in that area is brisk. Small pipeline companies and refiners are competing sharply for new connections and premiums ranging from 5 to 7½ cents are being offered above the Standard Oil Co. of Louisiana postings.

Premiums have been paid for new connections by minor concerns on several occasions for sometime, but in the past few weeks the competitive lines have redoubled their efforts to get new connections. The recent drop in Smackover heavy crude made it an all the more desirable oil. Storage is being reduced in Smackover at a steady rate.

Several big sales of heavy oil were reported during the week. The largest sale was made by the Gulf Refining Co., which sold 100,000 bbls. of earthen storage oil from the Perry tank farm to the H. H. Cross Co. The Cross company has an option for 100,000 bbls. more of the same oil.

### 187,000-Acre Lease Deal

The largest of the lease deals reported during the week was made by the Humble Oil & Refining Co. It was along the Caldwell-Angelina flexure and on the Texas end. The lease embraces 187,000 acres in Sabine, St. Augustine and Jasper Counties and was leased from the Temple Lumber Co., with a drilling obligation.

For the first time in years a permit has been issued for a new carbon black plant by the Louisiana Conservation Commission. The permit was issued to the Owl Oil Co. of Shreveport to build a two-unit plant with a 10,000,000 to 14,000,000-foot daily capacity. A natural gasoline plant is to be operated in conjunction with the carbon plant. The plant will be in the Waskom Gas Field.

The Owl company was organized by A. C. Glassell, Hill Meyers and others of Shreveport. It owns about 1,000 acres in leases centering around Section 8-17-16, Caddo Parish. During the week, O. L. Davis, a heavy stockholder in the Eastern Carbon Co., purchased the Owl Oil Co. for a consideration reported to be $145,000.

Production in the two states showed a 1,500-bbl. increase over the previous week. In Louisiana, Caddo light oil climbed back into the 10,000-bbl. class. Urania lost 1,000 bbls. daily during the week and Haynesville and Homer declined. All other fields in the State recorded gains.

In Arkansas, Smackover heavy rallied and a dizzy drop and gained 1,000 bbls. daily. The light oil field's production dropped off and all other Arkansas fields gained. Because of the big drop in Urania Louisiana only gained 300 bbls. last week while Arkansas gained 1,200 bbls. when Smackover came back.

**Production by Fields**

| | |
|---|---|
| **Louisiana** | |
| Bellevue | 2,360 |
| Caddo, light | 10,385 |
| Caddo, heavy | 2,975 |
| Cotton Valley | 7,980 |
| DeSoto and Red River | 3,810 |
| Elm Grove | 665 |
| Haynesville | 9,900 |
| Homer | 5,690 |
| Urania | 16,500 |
| Total | 60,265 |
| **Arkansas** | |
| Smackover, heavy | 125,195 |
| Smackover, light | 16,240 |
| El Dorado | 8,930 |
| Lisbon | 10,505 |
| Nevada | 2,610 |
| Stephens | 1,850 |
| Total | 165,330 |
| Total both fields | 225,595 |
| Total last week | 224,070 |
| Difference | 1,525 |

### Louisiana—Bossier Parish

Arkansas Fuel Oil Co.'s deep test in the northwest corner of Bossier Parish and northeast of Caddo, No. 1 Murray, Section 14-23-14, was a failure at 3,772 feet and was abandoned. In the Bellevue Field Autrey Oil Co.'s No. 3 Connell, Section 15-19 11, was completed at 417 feet pumping 7 bbls. of oil and a batch of salt water. Louisiana Oil & Refining Corp.'s No. 11-B fee, 499 feet west and 492 feet north SE cor. SW, Section 11-19-11, is pumping 10 bbls. from 412 feet. Autrey's No. 4 Connell, Section 15-19-11, is drilling at 266 feet. A rig is being moved in for Woodley & Collins' No. 1 Antrim, Section 4-21-11, and their No. 1 L. & A., Section 14-23-12, cored 5 feet of dry sand at 3,091-96 feet and is to be drilled deeper.

### Caddo Parish

Another Trinity horizon gas well was added to Caddo's deep production last week when Dixie Oil Co.'s No. 71 Robertshaw, Section 14-21-15, was finished at 3,663 feet making 25,250,000 feet of gas with 1,160 pounds rock pressure from 3,663 feet. Dixie finished No. 6 Hobbs, Section 24-22-15, for a 60-bbl. pumper at 1,034 feet. On the Gulf's Ferry Lake lease No. 237 was completed at 2,287 feet pumping 37 bbls. Lewis Oil Corp.'s No. 15 D. H. Raines, Section 22-21-15, was completed at 1,616 feet for a 25-bbl. pumper. Standard Oil Co.'s No. 1 Bettie S. Youree, Section 13-20-15, was abandoned at 2,500 feet. The Texas Company's No. 2-B F. J. Bayou, Section 16-20-16, was finished at 2,294 feet for a 40-bbl. pumper. On The Texas Company's Harrell lease, Section 12-21-16, No. 52 was abandoned at 1,978 feet and No. 53 in Section 2 was a hole full of water at 1,084 feet and abandoned. W. D. Chew's No. 4 fee, Section 33-21-16, registered for a 35-bbl. pumper at 1,850 feet.

Six-inch casing was cemented at 1,890 feet at W. D. Chew's No. 1-A Caddo, Section 9-20-16. Dixie Oil Co.'s No. 1 Jolly, Section 27-22-15, is shut down at 4,119 feet waiting for a drilling line. Six-inch casing was cemented at 2,651 feet at Gulf Refining Co.'s No. 1 Byrd, Section 2-19-14. Gulf's No. 238 Ferry Lake, Section 21-20-16, is waiting for a standard rig at 2,275 feet and No. 239, Section 22, is waiting for a pumping rig at 2,286 feet. Six-inch was cemented at 2,150 feet at No. 241 and No. 244 has started drilling. Gulf's No. 1-E Muslow, Section 35-21-15, is drilling in hard lime and shale at 4,047 feet while drillers are trying to get the drill stem out of the hole at 3,819 feet at No. 12 Tyson, Section 14-21-15.

Surface casing was set at 60 feet at Lewis Oil Corp.'s No. 7 Vespy, Section 15-21-15. On the Magnolia's Dillon lease, Section 24-21-15, No. 16 is shut down at 2,498 feet and No. 17 at 2,494 feet, both waiting for casing. Magnolia's No. 1 Spell, Section 29-21-15, is drilling at 3,176 feet and the plug at 3,644 feet is being drilled out at No. 1 Bradford, Section 24-21-15. A rig is up for Norrid Drilling Co.'s No. 1 fee, 380 feet east and 80 feet south center of Section 1-20-16. Murphy & Jones' No. 1 Youree-Randolph, Section 13-20-15, was swabbed to the top of the liner with a showing of gas and salt water. Six-inch was set at 2,260 feet and the bottom of the hole is 2,291 feet. Ohio is sidetracking nine joints of the drilling stem and a rock bit at 4,656 feet at No. 1 Ardis, Section 1-21-15. Owl Oil Co. has a rig up for No. 1 Bryson, 660 feet south and east NW cor. Section 9-17-16, and a derrick up for No. 2 Bryson, 660 feet south and east NW cor. Section 7-17-16.

Ramsey and associates' No. 1 Muslow, Section 32-21-15, is drilling at 600 feet. Standish Oil Co.'s No. 7 Allen, Section 23-22-15, is drilling at 250 feet. The 6-inch plug is being drilled out at 3,660 feet at The Texas Company's No. 42 C. M. L. Co., Section 23-21-15. Six-inch casing is being set at 1,817 feet at The Texas Company's No. 4 fee, Section 33-21-16, and at 1,330 feet at No. 7-A Hobbs, Section 28-21-15. The Texas Company's No. 3-B Hobbs, Section 21-21-15, is waiting for a pumping rig at 1,642 feet. Tholl Oil Co. has two waiting for standard rigs, No. 10 Bashara, Section 23-21-15, at 1,610 feet and No. 9 Huckaby, Section 14-21-15, at 1,600 feet. The rig has been moved off at Victor Wenzell's No. 1 Hunsicker, Section 15-20-15. Rigs are up for Wenzell's No. 1 Thomas, 250 feet north, 150 feet west, SE cor. NE, Section 15-20-15, and No. 1 Wemple, 300 feet north and west SE cor. NE NW, Section 14-20-15.

### Caldwell Parish

No casing was set at Cherokee Petroleum Co.'s No. 1 Louisiana Central, Section 10-11-2e, and the test is shut down at 1,755 feet. Grant & Pipes' No. 1 Cruse, Section 6-11-4e, is shut down at 1,475 feet. Humble's No. 1 Louisiana Central, Section 9-11-3e, is drilling at 1,590 feet. Wright and associates' No. 1 Love, Section 16-11-2e, is coring white sand at 1,615 feet.

### Claiborne Parish

Standard Oil Co. is straightening a crooked hole at 1,241 feet at No. 35 Lowenberg, Section 24-21-8. Triangle Drilling Co.'s No. 1 Hollyfield, Section 32-23-5, wa sabandoned at 2,975 feet. Triangle's No. 1 Keen, Section 7-19-5, was bailed dry with a slight show of oil at 4,225 feet and is drilling in soft chalky lime at 4,262 feet.

### DeSoto Parish

Dixie Oil Co. set 6-inch at 3,801 feet, corrected depth, at No. 1 Jenkins, Section 9-12-11, and is arranging to resume drilling at 3,805 feet. Carl K. Dresser's No. 1 Williamson, Section 29-15-14, resumed drilling and 6-inch is to be set at 2,720 feet. J. P. Evans' No. 1 Louisiana, Section 15-12-14, is drilling in lime at 2,938 feet. Evans' No. 1 Sutherlin, Section 20-12-14, was drilled 4 feet deeper to a total depth of 2,904 feet and is now making 3,000,000 feet of gas. The test is shut down for orders. Magnolia's No. 1 Bond, Section 27-12-11, is drilling in lime at 3,169 feet and 6-inch casing was cemented at 2,691 feet at J. C. Walton's No. 1 Chaffraix, Section 25-12-11.

### Grant Parish

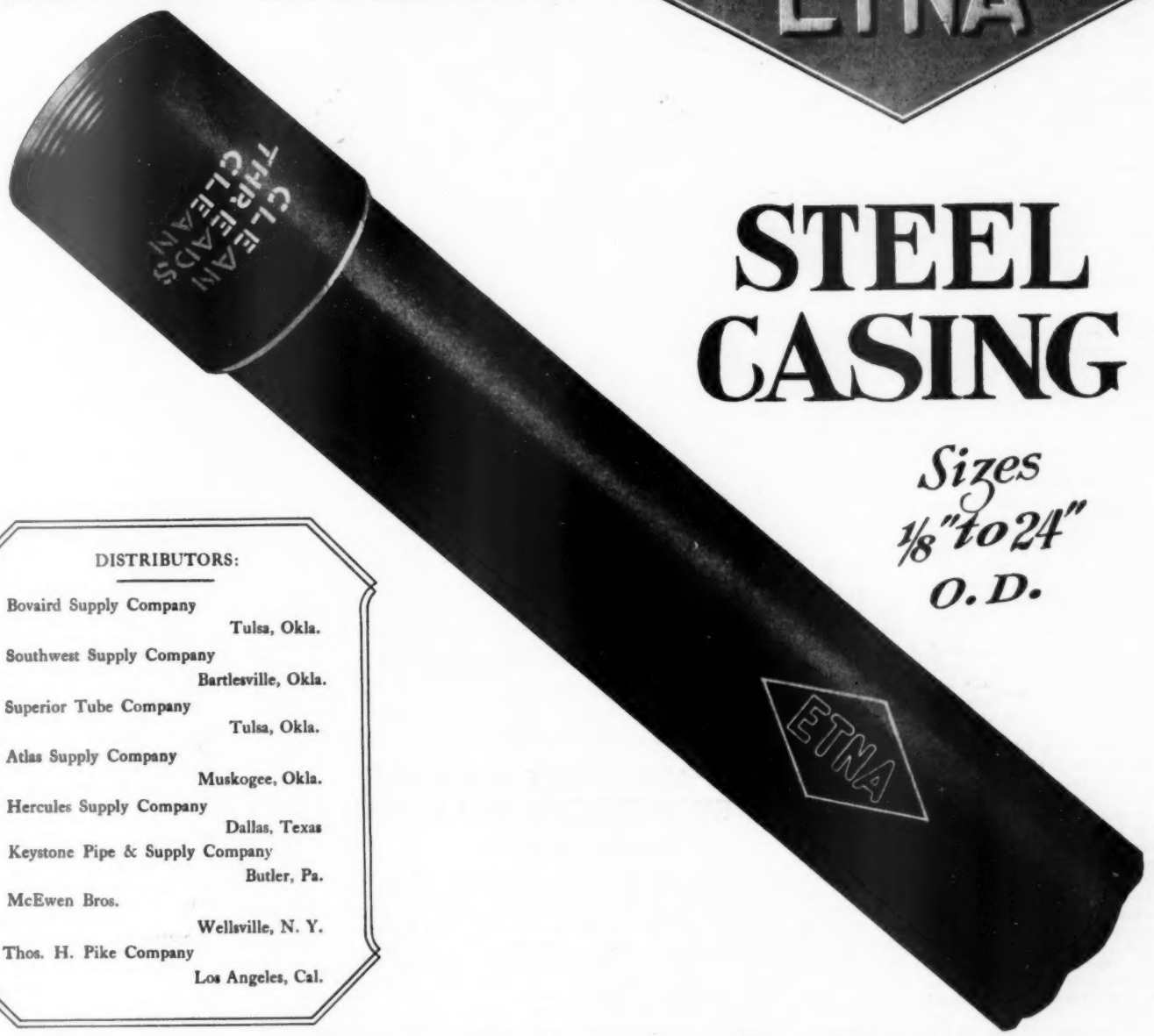
Dowling & McCurry's No. 1 Holmes, Section 20-9-1e, was abandoned at 1,616 feet. Bradley & Cozart's No. 1 Holmes, Section 16-9-1, is shut down at 1,460 feet. A derrick is up for Fuller and associates' No. 1 Harrison, Section 9-8-5w, and Gulf's No. 1 Swope, Section 17-9-1e, is a rig. Of the Humble's wildcats, No. 5-A L. & A., Section 16-9-1w, is coring at 1,545 feet; No. 8-A, Section 15-9-2w, is drilling at 100 feet and a derrick is up for No. 11-A, Section 20-9-2w. Tunica Petroleum Co. is setting 6-inch casing at 1,665 feet. The test had 6 inches of cap rock and sand from 1,665½ to 1,669 feet.

### Monroe District

The plug at 2,532 feet is being drilled out at Boisseau and associates' No. 1

# *Year after year Always the same—*

# DEPENDABLE ETNA

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Sullivan, Section 11-21-7e. United Carbon Co.'s No. 1 Burton, Section 24-20-4e, has spudded. Central company junked the hole at 775 feet at No. 1 Kerr, Section 12-19-4, and skidded the derrick 24 feet west to start a new hole. Hatcher & Evans' No. 1 fee, Section 17-19-4e, is shut down at 1,260 feet. Six-inch casing was cemented at 2,193 feet at J. M. Huber's No. 3 Banks, Section 36-19-4e. Six-inch casing was cemented at 2,167 feet at G. E. Jordan's No. 1 Fudicaker, Section 13-18-4e. Ouachita Natural Gas & Oil Co.'s No. 2 D'Arbone, Section 25-19-2e, is spudding. Arkansas Fuel Oil Co.'s No. 1 Reeves, Section 14-20-1e, is drilling in shale at 3,755 feet. Six-inch casing was cemented at 2,174 feet at Ruston Drilling Co.'s No. 1 Parks, Section 30-20-4e.

**Webster Parish**

Alabama Petroleum Co.'s No. 4-B Robbins, Section 21-21-10, gave Cotton Valley another nice pumper when it was completed for a 120-bbl. well at 2,558-72 feet. Humble's No. 2 R. R. Cox, Section 22-21-10, is drilling in shale and lime at 2,129 feet. Magnolia's No. 1 J. S. Sexton, Section 32-23-9, is rigged up and ready to go, and Magnolia's No. 2 Tiner, Section 21-21-10, is setting surface casing at 215 feet. Magnolia's No. 2-B Turner, Section 21-21-10, bailed the casing dry at 2,555 feet and drilling in with cable tools. Ohio Oil Co.'s No. 1 Cox, Section 23-21-10, is drilling in hard shale at 5,539 feet, and Ohio's No. 3 Holloway, same section, is drilling in lime sand and gumbo at 4,025 feet. Smitherman & McDonald's No. 1 Oakley, Section 29-23-11, is going through hard sandy shale at 4,460 feet. Southern Crude Oil Purchasing Co. and W. R. Ramsey's No. 1 Munn, Section 1-22-10, is drilling in hard shale at 3,960 feet.

**Winn Parish**

Humble Oil & Refining Co.'s No. 1 William Edenborn, Section 1-9-3w, was dry and abandoned in gray sand at 2,503 feet. Humble's No. 7 L. & A., Section 12-9-3w, has started drilling. Hunt and associates' No. 1 Edenborn, Section 8-9-3w, is drilling at 2,010 feet. Keene & Woolf's No. 1 Radescich, Section 21-12-3w, is being reamed to the bottom at 1,985 feet.

**Urania Field**

Routine completions in the Urania Field were for the most part small wells while several important wildcats surrounding the field were failures. Minnesota Oil Corp.'s No. 1 Cotton, Section 25-9-2e, west of production, was abandoned at 1,879 feet. North of production Robinson & Long's No. 1 Louisiana Central, Section 6-10-3e, was a hole full of water at 1,611 feet. Standard Drilling Co.'s No. 1 Cruse, Section 30-11-4e, was abandoned in salt water sand at 2,026 feet. Standard Oil Co.'s No. 1 Cockerham, Section 36-10-1e, half a mile south of a 100-bbl. well, was abandoned in salt water sand at 1,603 feet. Trio Oil Co. abandoned location for No. 2 Urania, Section 19-10-2e. Natural Gas & Fuel Corp.'s No. 4-K Urania, Section 18-10-2e, was abandoned in salt water sand at 1,657 feet; No. 8-E went the same route and was abandoned at 1,555 feet and the derrick moved and location abandoned for No. 5-K Urania, Section 18-10-2e. Production in Urania went a quarter of a mile north when McGaha and associates' No. 1 Urania, Section 7-10-2e, was completed in sand at 1,526-29 feet flowing 25 bbls. daily. Montague Oil Co.'s No. 2 Zenoria, Section 11-9-1e, made 100 bbls. initial from 1,497-1,500 feet. Natural Gas & Fuel Corp.'s No. 1 Cockerham, Section 36-10-1e, is making 100 bbls. on the pump from sand at 1,503-09 feet. Same company's No. 5-B Urania, Section 18-10-2e, is a 60-bbl. pumper at 1,524-33 feet and No. 4-E, same section, is pumping 20 bbls. at 1,506-14 feet. George W. Wetherbee's No. 1 Urania, Section 2-9-1e, is flowing 75 bbls. daily from sand at 1,497 to 1,500 feet. Louisiana Oil & Refining Corp.'s No. 5-B Tremont, Section 25-10-1e, is pumping 50 bbls. daily from sand at 1,541-45 feet.

Arizola Petroleum Co.'s No. 9 Tannehill, Section 36-10-1e, has started drilling. Beckham & Freeman's No. 1-B Urania, Section 7-10-2e, is drilling at 1,500 feet. Cement plug at 1,520 feet is being drilled out at O. W. Clark's No. 2-D Russell, Section 25-10-1e, and Clark's No. 4 Tullos, 150 feet north, 593 feet west SE cor. NE SW, Section 23-10-1e, is drilling at 1,475 feet. Cox and associates' No. 2 Herbert, Section 26-10-1e, is waiting for a standard rig at 1,511 feet. Dixie Oil Co.'s No. 7 Urania, 600 feet north, 200 feet east SW cor. SW SE, Section 24-10-1e, is drilling. Hamilton and associates' No. 1 Wright, Section 26-10-1e, is drilling at 600 feet. Hardtner Oil Co.'s No. 5 Urania, Section 7-10-2e, is waiting for a standard rig at 1,525 feet. Hope Oil Co.'s No. 2 Urania, Section 19-10-2e, is drilling at 600 feet. Derricks are up for H. L. Hunt's No. 1 Griswold, SE cor. NW SW, and No. 2, SW cor. NW SW, Section 2-9-1e.

Six-inch casing was cemented at 1,474 feet at Hunt and associates' No. 1 Tullos Heirs, Section 26-10-1e. Same operators have a derrick up for No. 1 Urania, SW cor. NE SW, Section 2-9-1e. Hunt McCurry & Zoder's No. 3 Urania, 600 feet south, 150 feet west, NE cor. NW SE, Section 7-10-2e, is drilling at 1,470 feet and No. 4 Urania, 600 feet west and 150 feet south NE cor. NW SE, Section 7-10-2e, is drilling at 1,485 feet. Ten-inch casing was set at 100 feet at Henry Jones' No. 1 Taylow, Section 23-9-1e. A derrick is up for Keen & Woof's No. 1 Urania, SE cor. NE SE, Section 3-9-1e. Louisiana's No. 9-A Tremont, Section 35-10-1e, is drilling at 800 feet and a derrick is up for No. 34-B Tremont, 660 feet south and 200 feet west NE cor. SW SW, Section 25-10-1e.

A derrick is up for Montague Oil Co.'s No. 3 Zenoria, 200 feet south and east NW cor. Section 11-9-1e. Six-inch casing was cemented at 1,479 feet at W. T. Murray's No. 2 Doughty, Section 36-10-1e. A derrick is up for Natural Gas & Fuel Corp.'s No. 3-F Urania, 200 feet north and east NW cor. SE SE, Section 24-10-1e. Same company's No. 1-H Urania, 300 feet north and east SW cor. Section 18-10-2e, is a rig and No. 2-H, 250 feet north and west SE cor. SW SW, is a derrick. Natural's No. 2-K and No. 3-K in Section 18, are waiting for standard rigs. Locations have been staked for Southern Crude Oil Purchasing Co.'s No. 1 Baldridge, 200 feet south and east NW cor. S half NE NW, Section 11-9-1e, and No. 2 Baldridge, 200 feet south and west NE cor. S half NW NW, same section. O. F. Whittaker's No. 5 King, SW cor. N half NW NE, Section 36-10-1e, is drilling at 1,400 feet.

**Scattered Wildcats**

S. B. Goodman's Catahoula Parish test, No. 1 Montgomery, Section 8-10-9e, is drilling in hard lime at 2,370 feet. In Lincoln Parish, Arkansas Fuel Oil Co.'s No. 1 Cooper, Section 3-20-4w, is drilling in hard lime at 2,115 feet. In Natchitoches Parish Davidson and associates' No. 1 Guellat, Section 47-7-5, is drilling at 1,480 feet, Foorest, trustee's No. 1 Ayers, Section 3-13-7, is drilling in lime at 1,987 feet and J. F. Palmer's No. 1 Edenborn, Section 4-11-6, is shut down at 2,015 feet. A rig is being moved in for Minnesota Oil Corp.'s No. 1 Wattermark, SW SW, Section 7-5-3w, Rapides Parish. Carnahan & Kyle's No. 2 Hollingsworth, Section 24-12-11, Red River Parish, tested salt water at 915 feet and has been temporarily abandoned. In Sabine Parish, L. M. Emlet's No. 5 H. L. Bowman, Section 9-7-12, is drilling in hard sand rock at 4,024 feet. J. B. Greer's No. 2 Peavy-Wilson, Section 11-5-9w, is drilling in shale at 1,562 feet and Toro Petroleum Co.'s No. 3 Drake, Section 19-4-11, set surface casing at 112 feet.

**Arkansas—Union County**

Of the two score completions in Union County last week two deep failures stood out on the list. One was the 2,951-foot test of Hickman and associates, Section 3-17-16. It found a showing of oil in the Nacatoch sand but failed to find producing zones beneath that. The test was drilled on the Slaughter lease in the northeast corner of the Lisbon Pool. The other deep test was west of Lisbon. It was McGaha and associates' No. 1 Haney, Section 11-17-16, which was dry and abandoned at 3,020 feet.

Allday Drilling Co.'s No. 2 Murphy, Section 4-17-16, is making 15 bbls. on the pump at 2,131-65 feet. Federal Petroleum Co.'s No. 3 H. B. Murphy, Section 15-16-15, is pumping 60 bbls. of fluid, 10 per cent salt water, from 2,590 to 2,608 feet. H. L. Hunt's No. 5 H. O. Murphy, Section 4-17-16, was put on the pump and is making 23 bbls. of fluid, 20 per cent salt water, from sand at 2,070 to 2,149 feet. In the area extending Smackover, H. L. Hunt's No. 2 Swilley, Section 28-16-16, was put on the beam and is making 200 bbls. of fluid, 60 per cent salt water. Magnolia Petroleum Co.'s No. 2 Dumas, Section 9-17-16, is pumping 60 bbls. from 2,074 to 2,108 feet and Magnolia's No. 5 Harrell, Section 4-17-16, is flowing 125 bbls. from 2,104-46 feet. Natural Gas & Fuel Corp.s No. 3 Willett, Section 4-17-16, is flowing 25 bbls. through 2-inch tubing from sand at 2,095 to 2,135 feet.

Ohio Oil Co.'s No. 4 Goodwin, Section 21-17-16, is pumping 30 bbls. daily from 2,109-40 feet. Reynolds & Marr's No. 2 Goodwin, Section 21-17-16, is good for a 20-bbl. pumper at 2,094 to 2,142 feet. Rovenger Oil Corp.'s No. 3 Harrell, Section 15-17-16, pumped 15 bbls. from 2,117-60 feet. Roxana's No. 6 Flournoy, Section 4-17-16, was finished for a 75-bbl. pumper at 2,090-2,130 feet. C. L. Saxon's No. 1-B Saxon, Section 9-16-16, is pumping 200 bbls. of fluid, 90 per cent salt water, from sand at 2,671-76 feet. Simms Oil Co. completed No. 8 Perry, Section 16-17-16, for a 15-bbl. pumper at 2,082-2,107 feet. Summerfield and associates' No. 1 Jackson, Section 17-17-16, southwest side of Lisbon, was completed for a 500,000-foot gasser at 2,102-45 feet. Weis & Simmons' No. 1 McElroy, Section 4-16-16, was abandoned with the casing in the hole at 2,615 feet when it tested salt water. Clark & Greer's No. 3 Robinson, Section 6-18-15, wound up the completions and was a 30-bbl. pumper at 2,131-45 feet.

**Increase in First Reports**

A distinct increase in first reports pushed Union County's field operations slightly above par. Allday Drilling Co.'s No. 3 Murphy, Section 4-17-16, is bailing to test 32 feet of sand topped at 2,118 feet. Amerada Petroleum Corp.'s No. 7 Calloway, Section 4-16-15, is being rigged up with standard tools at 2,337 feet. Atlantic Oil Producing Co.'s No. 7-B Andress, Section 16-17-16, is waiting for a standard rig at 2,121 feet and a derrick is going up for Atlantic's No. 1 Ford, SW cor. NW NW, Section 3-17-16. Atlantic's No. 5 Goodwin, Section 16-17-16, is spudding. A rig is up for Ackerley and associates' No. 1 Murphy, NE cor. SW, Section 1-17-16. F. A. Book's No. 1 McDonald, Section 1-16-16, was bailed dry with a show of salt water at 2,570 feet, steel line measurement, and is being deepened. Dyer Brothers' No. 4-A Stout Lumber Co., NE cor. SE SE, Section 31-15-16, is drilling at 1,250 feet. Six-inch casing was cemented at 2,116 feet at Gulf's No. 1 Primm, Section 21-17-16. Location has been made 330 feet north and west SE cor. Lot 6 NE, Section 6-16-16, for Gulf's No. 46 L. Werner.

A string of 3½-inch casing was cemented at 2,687 feet at Hollayfield & McFarland's No. 10 Giller, Section 11-16-15. Six-inch was cemented at 2,448 feet at Humble's No. 6-B Flenniken, Section 9-16-15, and Humble's No. 4 and No. 8 Goodwin, Section 16-17-16, have started drilling. H. L. Hunt's No. 3 Swilley, Section 28-16-16, took one foot of sand topped at 2,670 feet and bailed dry. The hole was deepened 2 feet and 2,220 feet of oil rose in the hole. The well is to be put on the pump. Surface casing was set at No. 4. Imperial Oil & Gas Co.'s No. 1 Goodwin, Section 26-17-16, tested salt water at 2,585 feet and is going deeper. Keisker and associates' No. 2 Harrell, Section 15-17-16, is drilling at 800 feet. Six-inch casing was cemented at 2,060 feet at Lion Oil & Refining Co.'s No. 2-A Dumas, Section 10-17-16, and at 2,121 feet at No. 8-A Mitchell, Section 17-17-16. Arrangements are being made to deepen Lion's No. 10 Graves, Section 3-16-15, completed last January at 2,359 feet, pumped 100 bbls., mostly salt water. Magnolia's No. 5 Tatum, Section 7-16-15, is being swabbed to test 12 feet of broken sand topped at 2,011 feet. Magnolia's No. 2 Childs, Section 8-16-16, is drilling at 250 feet; a derrick is up for No. 1 Halsey, NE cor. Section 20-17-16. On the Magnolia's Harrell lease, Section 4-17-16, No. 3 is waiting for 6-inch to set at 2,092 feet. No. 4 is drilling at 1,750 feet and No. 6 at 1,230 feet. A derrick is up in the NE cor. W half NW SE, Section 17-17-16, for Magnolia's No. 1 A. E. Slaughter and No. 1 J. Slaughter, Section 8, has spudded.

**Location Staked**

Location has been staked for Mathews and associates' No. 1 Lewis, SW cor. SW NW, Section 14-19-12. A string of 4½-inch casing was cemented at 2,769 feet at Murdock and associates' No. 7 Vestal, Section 17-16-15. On the Natural Gas & Fuel Corp.'s Willett lease, Section 4-17-16, Nos. 5, 6 and 7 have started drilling. Ohio's No. 3 Ballard, Section 14-16-15, has been rigged up to be deepened. On the Ohio's Goodwin lease, Section 21-17-16, 6-inch casing was set at 2,088 feet at No. 5; No. 6 is drilling at 100 feet and a derrick is up for No. 7, NW cor. SW NW. Peer Oil Co.'s No. 6 Palmer, Section 9-16-15, is drilling at 2,030 feet. Reynolds & Marr's No. 1 Goodwin, Section 21-17-16, is drilling at 2,000 feet. Sam Richardson's No. 2-M Murphy, Section 14-16-15, is drilling at 1,000 feet. Rovenger Oil Corp.'s No. 7 Goodwin, Section 16-17-16, is drilling at 300 feet, and 6-inch casing was cemented

(Continued on Page 110)

# MAJOR COMPANIES GET ACREAGE IN NEW MEXICAN MALJAMAR AREA

By Special Correspondent

ARTESIA, N. M., July 2.—Acreage continues to change hands daily in the southeastern part of New Mexico around the Maljamar's wildcat with the major companies doing the majority of the buying. The Ohio, Prairie and Humble companies have entered the field during the past 15 days buying protection acreage. In addition to having purchased about 30,000 acres the Ohio has also obtained 640 acres out of the Maljamar block this being the first piece of acreage sold by Wm. Mitchell's company. Two wells will be drilled by the Ohio, one of these being on the Pearl Miller permit in the NE cor. of the NW of Section 35-17-32, the other on the Wm. Mitchell permit in the NE cor. of the SW of Section 18-17-32.

The Prairie's buy consisted of a one-half interest in Section 19-29-30 31, Township 18, Range 33; a half interest in Section 3-4-5-6-7-8-9-10, Township 17, Range 31 and all of Section 33 34, Township 18, Range 32 and Section 3-4, Township 19, Range 32. The first location it is reported will be in the NE corner of Section 8-17-31.

The Humble Oil & Refining Co. has purchased close to 40,000 acres scattered. A large amount of state and government land has also been purchased by the independents many of whom announce they will drill in the Caprock area.

A gauge taken of the Maljamar well shows it to be making 100 barrels daily with the greater part coming from the sand encountered at 4,100 feet. The crew is now running the 6⅝ inch casing which will be landed at 3,590 feet. The gas will then be bradenheaded and the lower sand drilled out before the well is shot.

Two more wells were started during the current week these being the Skelly Oil Co.'s No. 1 in Section 22-17-31 which is down 200 feet and the Bruce Sullivan No. 1 in the SE of Section 1-18-31. The Caprock Oil & Gas Co. has made a location for a well in the SE of Section 11-16-32 and D. T. McDonald has closed a contract for a well on state acreage in the NE of Section 22-18-34, both being on the caprock.

Casing has been set in the Wooley-

(Continued on Page 100)

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| Lost Production - - - - - - | 1,680.00 |
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# Mixed Results In Long Beach Zone

## One Completion Makes 1,092 Bbls. and Two Other Fair Wells Were Brought in But Others Were Disappointing

By L. P. Stockman
*Staff Correspondent, California Fields*

LOS ANGELES, Calif., July 3.—The McKeon Oil Co., discoverer of the deep zone in the northwest extension of the Long Beach Field, completed two new producers in that horizon during the early part of the week after redrilling and deepening them from the upper sand. No. 6 Cerritos was the first to come into production but it was followed a short time later by No. 11 Pantages, drilled to 4,805 feet and finished with a 4½-inch liner. The former is flowing 390 bbls. of 22.4 gravity oil from 4,820 feet, while the latter is doing 425 bbls. of 22.5 gravity oil daily. No. 6 is producing from an 18-foot sand, while No. 11 Pantages has a penetration of approximately 30 feet. The McKeon Co. has two other wells standing cemented just above the pay and is making preparations to redrill and deepen No. 2 Cerritos.

The largest well finished during the past seven days, was the Julian Petroleum Co.'s No. 2 fee, which came in flowing 1,092 bbls. of clean 22.3 gravity oil after being redrilled and deepened from the upper to the lower zone at 4,795 feet. The Lindauer Oil Co.'s No. 10 Cerritos was somewhat of a disappointment in that it only registered an initial of 197 bbls. of 21.2 gravity oil daily upon completion. This well, completed at 4,870 feet and finished with a 4¾-inch liner, had about 60 feet of sand from which to draw and, since this penetration is somewhat in excess of the average, the output was expected to reflect this advantage. The Kaweah Oil Co.'s No. 1 Cerritos, a new well carried direct to the deep zone at 4,855 feet and finished with a string of 6¼-inch, also failed to come up to expectations, as it only registered 160 bbls. daily flowing through an open hole.

### Water Trouble

Kinney & McKrate's No. 3 Cerritos, a completion in the upper zone, only registered a small initial pumping, 150 bbls., but the output from 4,357 feet was unusually clean and tested 22.8 degrees in gravity. The Wilshire Oil Co. is still held up with water trouble in practically every one of its six wells in the extension, several testing wet for the second or third time. The California Petroleum's No. 1 Bixby, about a mile east of the northern part of the northwest extension, has all the earmarks of a duster at 5,100 feet and as it is already deeper than the lower zone in the extension and has not found any upper indications of any kind of the presence of another structure, the outlook is rather disappointing. M. L. Boles' No. 1 Cerritos looked like it would be the biggest well in the extension when it blew in yesterday morning and it might yet claim this distinction when it is returned to production some time during the coming week. The well developed an enormous gas pressure and after blowing off the control head proceeded to paint the entire landscape with oil. It is located but a short distance from the Foster Syndicate's No. 75, which was in its time also a rather big well for this area. Boles' wild gasser, which was being redrilled to the deep zone, blew in making about 2,000,000 feet of gas flowing between the 8¼-inch and 6¼-inch casing. A mud line was hastily rigged up and the well killed within a short time. The crew is already cleaning up the debris and making the necessary repairs after which the well will be given a test at 4,815 feet. It will, of course, start off with a good gas production and it would not be at all surprising if it set a new crude oil record for new wells in the extension to shoot at.

### Rosecrans

The Barnsdall Oil Co. chalked up another excellent completion in the Rosecrans Field during the past week and, although the output is showing an excessive amount of emulsion, it may perhaps clean up a little later. The well in question was No. 12 O'Dea which came in flowing 560 bbls. of 41.1 gravity oil from 4,122 feet, the hole being finished with a string 8⅝-inch and 3,650 feet of 2½-inch tubing. The Barnsdall's No. 7 Rosecrans, which came in as a gas well a week or ten days ago, is yielding approximately 3,000,000 feet of gas and around 180 bbls. of crude. The company spudded in No. 13 O'Dea a few days ago and preparations are being made to ream the hole preparatory to landing a string of 16-inch around 940 feet.

There was one recompletion listed due to the work of the United Oil Co. in redrilling and reconditioning its No. 1 Athens. This well, which has been cleaned out to bottom, 5,248 feet, is yielding 140 bbls. of 34.2 gravity oil. The Union wrote finis opposite No. 4 Howard Park and it is being abandoned as a duster in a brown shale at 5,238 feet. Paul Getty is not having the success which he anticipated when he took over the Hercules Gasoline Co.'s No. 1 Athens some time ago on a royalty basis. Getty redrilled and deepened this well to 5,100 feet and made a production test after landing a string of 6¼-inch at 4,945 feet but the results were negative.

### Inglewood

Continuous drilling operations in the Inglewood Field since its inception have left very little acreage for future development so far as the upper zone is concerned and the completion this week of No. 34 Baldwin Cienega by the Standard indicates that future completions with a few exceptions, will probably be small as subsequent drilling will be around the edge of the field. The productive limits of this district are defined with the exception of one point, around which the completions have shown a comparatively small initial output, and it is logical to assume that new wells in this area will likewise be small.

The Standard's latest completion, No. 34 Baldwin, was a small pumper good for 218 bbls. from 2,150 feet. The oil tests 16.6 degrees and shows a cut of 20 per cent, due either to edgewater conditions or a faulty shut off. The company's most recent spud in this field was No. 49 on Los Angeles Investment Lease No. 1 and, as rotary equipment is being rigged up in No. 51 Baldwin Cienega, it is possible drilling will also be started on this location shortly. The Associated is making preparations to bring in No. 50 Vickers within a few days and the outlook is quite promising.

### Dominguez

There were two new wells finished in the Dominguez Field during the current week but both were unusually small. The Shell's No. 31 Reyes, drilled to 3,978 feet and finished with a 6¼-inch oil string, 110 feet of which was 80-mesh screen, was only good for 150 bbls. daily, the oil testing 29.2 degrees and showing a cut of 2 per cent. No. 4 Callender of the Union registered an initial of 200 bbls. from 4,758 feet, the oil testing 28.4 degrees and showing a cut of 1 per cent. Both the Union and Shell should bring in additional wells during the coming summer but none is expected to be large as each company is satisfying itself with a minimum penetration in the oil sand.

### Torrance

Two new wells and one clean-out job resulted from the operations of the Chanslor-Canfield Midway Oil Co., California Petroleum and Shell at Torrance and, although the combined production only aggregated 253 bbls., this was not surprising since the field has been yielding only small wells for several months. The workover was the California Petroleum's No. 2 Dawson, which was returned to production pumping 20 bbls. daily, after being cleaned out to bottom, 3,450 feet. No. 9 Redondo of the Shell, a new well, was put on the beam at 3,575 feet and, although it is pumping 75 bbls. daily, the output is cutting somewhere around 30 per cent. The Chanslor-Canfield Midway Oil Co.'s No. 67, drilled to an even 3,500 feet and finished with an 8¼-inch oil string, showed an initial pumping of 158 bbls. This company has been pursuing a rather consistent development program at Torrance and, in addition to the three wells now drilling, is rigging up No. 73 Del Amo for an early spud.

### Huntington Beach

Drilling work in the southwest extension at Huntington Beach, which was opened up for development a few months ago, has been getting under way rather slowly, due possibly to the uncertainty of developing commercial production in that particular area. Once this is definitely established, operators will no longer show any hesitancy in engaging in immediate drilling and if the first well proves the existence of commercial production beyond any doubt, a considerable amount of work will get under way. Operators are watching the progress of the Wilshire's No. 1 Huntington and, although this company has refused to release any information, field scouts arrive at an approximate depth by counting the drill pipe. The well is down approximately 3,300 feet and has several hundred feet to go before reaching the projected depth.

The gas production of the Standard's No. 7 Thompson, which blew in a few weeks ago, is beginning to decline, although still yielding a little better than 1,000,000 feet daily. As has been expected, the oil production has shown a substantial increase and will probably register a further improvement as the gas output drops. The Sun Oil Co. of California focused the attention of operators on the eastern part of Huntington Beach Field some time ago by bringing in its No. 7 Wilson after a long struggle with water. The well was originally drilled to 3,786 feet but plugged back by stages to around 3,400 feet, this work consuming the better part of six months. The oil is believed to be coming from around the 3,200-foot level and, although the cut has been increasing for the past few days, it is not large enough to cause any anxiety. The California Petroleum's No. 1 Buck, north of the field and outside the proven limits, is rotating ahead in a gray sand at 4,204 feet and, since there have not been any upper showings of any kind, the outlook is rather doubtful.

### Santa Fe Springs

The General Petroleum finished one of the best wells brought in at Santa Fe Springs for several months in No. 20 Santa Fe. This well, which was drilled to 3,828 feet and finished with a 6¼-inch oil string landed in the Bell zone, started off flowing 692 bbls. of clean 30.9 gravity oil daily. When the Bandini Petroleum's No. 6 Off dwindled down to but a few barrels a day the company lost very little time plugging back from the Meyer to the Bell zone with the result that it was recompleted during early in the week flowing 510 bbls. of 28.9 gravity oil daily.

The St. Helens Petroleum added a new well to its producers in the Montebello Field by completing No. 12 Monterey at 3,670 feet. It started off pumping 195 bbls. of 25.6 gravity oil daily and will probably do better after it gets under way. The company has three other drilling projects in this field, one of which, No. 1 McDonald, was only recently spudded in. The McGinley Oil Co. also spudded in a new well, No. 22, and made 600 feet of hole before the close of the week. Due to the low price paid for heavy oil, together with the rather unfavorable grade of crude produced at Newport, work in this field is at a low ebb. This production may be commercially profitable within five years but it is doubtful if operators in this area are even making the lifting cost at present. The total production involved is only a small amount and, while there are three or four wells drilling it is believed further development work will be suspended pending a readjustment of present crude oil price schedules.

### Fullerton

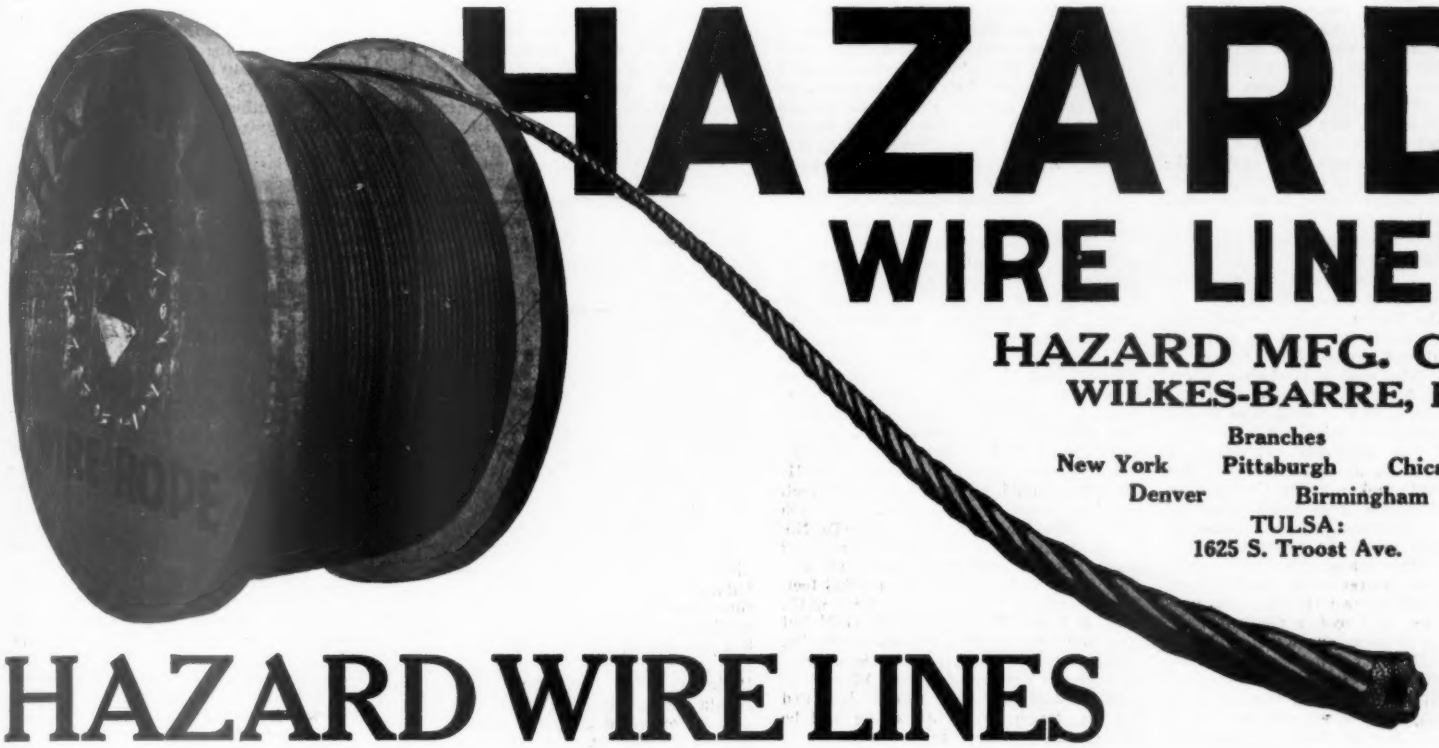
The Union continues to be the largest operator in the Richfield and Fullerton districts so far as drilling work is concerned and, judging by the number of rigs up and locations staked, will continue to run the greatest number of strings, at least during the summer. Neither the General Petroleum nor Shell augmented their drilling work although the former will probably do so within a few days, as No. 1-A Thompson is completely rigged up and waiting for a crew. The General Petroleum is working on two drillers at Richfield and a similar number in the Fullerton district, while the Shell is concentrating its efforts at

**TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS**

| Commodity— | Total This week | Daily Average | Total Last week | Daily Average | This year To date | Same time Last year |
|---|---|---|---|---|---|---|
| Crude oil | 93,402 | 13,343 | 416,166 | 59,452 | 6,497,446 | 8,391,051 |
| Fuel and gas oil | 150,113 | 21,444 | ..... | ..... | 4,679,231 | 237,873 |
| Gasoline | 144,170 | 20,595 | 156,906 | 22,415 | 3,427,337 | 3,250,438 |
| Tops | ..... | ..... | ..... | ..... | 74,619 | 327,185 |
| Coastwise— | | | | | | |
| Crude oil | 145,921 | 20,846 | 547,255 | 78,179 | 12,013,848 | 15,315,215 |
| Fuel and gas oil | 276,921 | 39,560 | 225,167 | 32,167 | 4,710,824 | 5,905,662 |
| Gasoline | 22,876 | 3,268 | 136,280 | 19,469 | 3,559,206 | 2,159,323 |
| Kerosene | ..... | ..... | ..... | ..... | 166,870 | 239,763 |
| Tops | ..... | ..... | 90,098 | 12,871 | 480,544 | 85,986 |
| Exports— | | | | | | |
| Crude oil | 65,409 | 9,344 | 153,399 | 21,914 | 2,560,836 | 1,195,998 |
| Fuel and gas oil | 153,467 | 21,924 | 506,841 | 72,406 | 8,125,822 | 7,213,454 |
| Gasoline | ..... | ..... | ..... | ..... | 2,529,480 | 2,015,036 |
| Tops | ..... | ..... | ..... | ..... | ..... | 170,407 |
| Kerosene | 71,602 | 10,229 | 96,482 | 13,783 | 1,055,560 | 1,027,633 |

**TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS**

| | | | | | | |
|---|---|---|---|---|---|---|
| Fuel and gas oil | ..... | ..... | 70,401 | 10,057 | 584,771 | 160,308 |
| Gasoline | ..... | ..... | ..... | ..... | 592,094 | 642,672 |
| Tops | ..... | ..... | ..... | ..... | 229,775 | 624,175 |
| Lubricants | ..... | ..... | ..... | ..... | 217,147 | 235,533 |
| Coastwise— | | | | | | |
| Fuel and gas oil | 117,698 | 16,814 | 72,680 | 10,383 | 2,501,732 | 1,870,039 |
| Gasoline | 123,245 | 17,606 | 95,515 | 13,645 | 2,091,401 | 1,283,585 |
| Kerosene | 6,194 | 885 | 4,142 | 592 | 202,093 | 124,079 |
| Exports— | | | | | | |
| Fuel and gas oil | ..... | ..... | ..... | ..... | 1,529,180 | 1,040,799 |
| Gasoline | ..... | ..... | ..... | ..... | 732,961 | 384,387 |
| Kerosene | 134,696 | 19,242 | 90,407 | 12,915 | 1,137,678 | 591,125 |
| Lubricants | ..... | ..... | ..... | ..... | ..... | 293,429 |



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Fullerton where the company is running seven strings of tools on the Columbia, Fisher, Orange and Pico leases.

The California Petroleum has three incompleted drilling projects at Richfield, while the Standard has a similar number in the same area, two on the Kraemer lease and one on the Anaheim Union Water property. The Chanslor-Canfield Midway Oil Co. ran into a difficult fishing job last week in its deep test at Fullerton while rotating ahead at 7,150 feet and it looked like the beginning of the end but the crew effected a speedy recovery and the company is again drilling ahead. This hole is down 7,220 feet and, unless further trouble is experienced, will probably exceed the rotary drilling record of 7,591 feet established by E. J. Miley at Rosecrans.

**Ventura**

The Associated recompleted No. 31 Lloyd in the Ventura Avenue Field early in the week but it was good for only 450 bbls. of oil and around 500,000 feet of gas daily. The well is producing under a handicap, however, as a twist off left several hundred feet of drill pipe in the hole, the bottom of which is 5,180 feet. This well was originally completed in September, 1925, at 4,877 feet but the company undertook a short time ago to redrill and deepen it in order to secure a greater penetration, which it was expected would boost the production substantially. The fishing job which developed, however, is preventing the well from showing anywhere near its maximum production. No. 18 Lloyd, a southwesterly line well, is drilling ahead in sand and shells at 5,684 feet following an unsuccessful production test at 5,400 feet.

The Shell turned No. 21 Gosnell loose this morning from 5,860 feet but as it is really only just getting under way, no estimate is available as to the initial output. It should be good for at least 2,000 bbls. a day as soon as it expells the heavy rotary mud used in this field to keep the gas under control. This will probably be the Shell's last completion for several weeks as none of the remaining drillers is deep enough to come into production. No. 8 Edison at 4,100 feet, No. 11 Gosnell at 4,925 feet, No. 22 Gosnell at 4,980 feet and No. 12 Taylor at 4,410 feet should all be finished around the end of July. The company has just spudded in No. 14 Taylor and the starting of this hole gives the company eight drilling projects in this area. The General Petroleum's No. 3-A Barnard is rotating ahead in a hard oil sand at 4,910 feet and while it is flowing considerable oil and gas, a little more hole will be made before it is put on a production test. The company is also drilling two other wells in this field, both on the Barnard lease, and is rigging up No. 9 Notten to deepen in the hope of stimulating production.

The Bolsa Chica's No. 1 Hartman, which has just passed the 5,300-foot level, is showing up unusually well and the company has hopes of bringing in at least a 2,000-bbl. well from around the 5,400-foot level. This outpost, in the northern part of the field, is several hundred feet north of the Associated's No. 3 Hartman, which is flowing approximately 700 bbls. daily. The Associated was not able to drill as deep as might be desired and officials of the Bolsa Chica hope that by securing a greater penetration they will be able to finish a much better producer than No. 3 Hartman brought in a few weeks ago.

G. J. Magenheimer's No. 1 Hartman, still farther north than the Bolsa Chica's present well, is running true to form in that the formation is correlating very closely with that encountered in wells farther south. The Ventura Associated has secured a lease on the property owned by the Ventura Packing Co. and will probably start a well if the Bolsa Chica's No. 1 Hartman & Magenheimer's new well are good producers upon completion. In the southern part of the field the two wells of the Petroleum Securities, No. 1 Willett at 4,400 feet and No. 1 Orton at 3,500 feet, are being watched very closely and, while those familiar with conditions prevailing in this field expect both to come into production, it is problematical just how big each may be.

The Associated has reached a depth of 3,346 feet in No. 1 McGonigle in the extreme eastern part of the field and, although No. 1 Ventura Land has been standing rigged up for some time, the company has not yet spudded in. The Milham Exploration Co. is drilling a well still farther east but if the absence of any upper showings is any criterion, it does not look as though the company will secure production. The Chanslor-Canfield Midway Oil Co.'s No. 1 Hobson, west of the Ventura Avenue Field, will resume drilling during the coming week following the setting of a string of 8⅝-inch landed for protection purposes at 4,810 feet.

**Midway-Sunset**

There were several wells finished in the Midway-Sunset Field but all comparatively small and of no special importance. The North American Consolidated finished two wells in Section 30-31-24 and immediately started work on two new holes, Nos. 40 and 42, on the same property. The wells finished were Nos. 39 and 41. The former, drilled to 4,445 feet, was good for 200 bbls. daily, while the latter, put on the beam at 4,297 feet, is making 150 bbls., the oil in each case testing 25.4 degrees. The United's No. 2 Pacific Midway in Section 24-31-22 was a 20-bbl. pumper from 1,903 feet, the hole being finished with a 6¼-inch liner. The Honolulu Consolidated's No. 65 in Section 4-32-24 was also a small pumper, being good for a maximum production of 80 bbls. daily from 2,898 feet. The Standard finished three new wells, Nos. 2, 4 and 6, in Section 29-31-24 but they were not actually put on production and as a result will appear in the completion report next week. No. 46 in Section 19-31-24 may also possibly be listed for completion as the oil string will be run in the next few days.

The Bell Evans Oil Co. finished its No. 3 in Section 4-32-24 at 3,173 feet and, although it made about 100,000 feet of gas, it has so far failed to produce any oil. The Transport Oil Co. has just finished redrilling and deepening No. 2 Rush from 3,994 feet to 4,002 feet and a 4¾-inch liner is being run in. The Union's No. 1 Houchin, formerly the Lewis Petroleum's No. 6 in Section 10-11-23, is making hole at 5,204 feet but it is reported the outlook is rather unfavorable as it is not correlating with the Standard's Rass property nearby. The Standard, by the way, is making preparations to drill another well on the Rass lease which is producing from the deep brown shale. The Obispo Oil Co. has concluded drilling its No.. 11 in the Maricopa Flats at 3,955 feet nd is preparing to run in and cement a string of 6¼-inch. This well is but a few locations removed from the company's No. 6, which started off so auspiciously last year with a good brown shale production from 4,000 feet.

The Pan American has finished No. 41 in the Elk Hills Field at 3,247 feet and, while it looks good for around 250 bbls. daily, this has not been confirmed due to the absence of actual production figures. George F. Getty added another well to his producers on the Kern front by finishing No. 14 Lenhart at 2,165 feet. It is a pumper making 128 bbls. of 14.8 gravity oil daily. The Shell is temporarily held up in No. 1 Vedder, its discovery well being deepened in the Mt. Poso area at 2,572 feet but will get under way again in a few days as the delay has been occasioned because of a material shortage only. The Standard's No. 24 in the Wheeler Ridge Field was good for 185 bbls. when put on a test early in the week at 2,450 feet.

**Southern California Wildcats**

Neither the Marland nor Union has picked up the pay in their respective wildcats at Seal Beach and as a result there has been no change in the status ot the area. The Union's No. 1 Bryant has just passed the 4,172-foot level, while the Marland is rotating ahead in No. 2 Bixby at 3,506 feet. These two wells should throw considerable light on what may be expected as previous tests have defined the structure in nearly all other directions. The Associated is rigging up its fourth diamond core survey hole and spud will be made possibly before the close of the week. The Marine Oil Corp. has announced its intention of drilling a wildcat in the Bellflower area and has chosen the Strong property as the location. The company has somewhere around 500 acres under lease at this point, which is about 3 miles distant from the nearest previous test. Location has just been staked and, while there is not yet any material on ground, it will probably be hauled in within a short time.

The Superior Oil Co. is considering the advisability of abandoning the Russell Petroleum's former wildcat in the vicinity of Chatsworth as unproductive. The Superior took this well over following a very promising showing but tests at 3,980 feet, 4,040 feet and 4,185 feet failed to show anything more than a few rainbows. Featherstone & Preston have started rig construction for a new test at Clearwater to be located on the Comstock property but it is reported that only a technical spud will be made pending the final decision as to the advisability of fulfilling further lease requirements. The Union's No. 1 Howland, southwest of the Inglewood Field, is drilling ahead in a gray sand at 2,680 feet, the only favorable indications found to date being a slight gas showing. This well might bear watching during the next 30 or 60 days.

The Marland has just about finished abandoning No. 1 Connolly, its wildcat in the Hyde Park area, at 5,500 feet due to the rather unfavorable outlook. George W. Johnston has resumed drilling in the Manhattan-Hermosa Beach area and will carry his No. 1 Martin on down for a conclusive test following the failure to effect a satisfactory water shutoff around the 3,900-foot level, at which point core samples indicated the presence of a few thin streaks of oil sand. H. A. Bardeen has just recemented his wildcat in this vicinity at 3,850 feet for the fourth or fifth time and will probably continue to work along this line for some time. The Julian Petroleum's No. 1 Hellman, less than a mile away, is down 4,496 feet and, since this well has failed to pick up the streaked sands around the 4,000-foot level, drilling will probably continue.

**Puente Wildcat**

The Barnsdall is temporarily held up in No. 1 Merlo, a wildcat in the vicinity of Puente, at 1,874 feet, but will probably get under way again within a few days, during which the necessary repairs will be completed. The Petroleum Securities has landed a string of 18-inch stovepipe at 445 feet in No. 1 Sesnon at Reseda in the San Fernando Valley and drilling will be resumed by the end of the week. The Standard's San Frenando Valley wildcat, No. 1 University, is rotating ahead in a hard sandy shale at 2,544 feet with no favorable indications logged to date. The Milham Exploration Co. landed a string of 8⅝-inch in its Playa del Rey test at 5,291 feet, the bottom of the hole being 5,462 feet, but a test just made seems to indicate an effective water shutoff has not been secured.

There are only two wells of any importance in the Newhall-Saugus area, the Union's No. 1 Saugus at 3,140 feet and the Marland's No. 1 Wickham at 3,468 feet and, although neither has yet found anything resembling production, they cannot by any means be relegated to the duster class. The California Petroleum Development Co. has signified its intention of drilling a wildcat at San Juan Capistrano, about midway between Los Angeles and San Diego, and although a lease has been secured no material has yet been hauled in. This area has not received very much attention for several years, at least not since the Union drilled a duster on the O'Neill ranch. Several independent operators have from time to time leased up this acreage but the major companies have given it a wide berth due, it is believed, to the fact that this entire area is of an igneous character.

**Northern California Wildcats**

The Marland is still testing the shutoff on the 8¼-inch landed at 5,000 feet in its No. 1 Lazard in Kern County and it looks as though another cement job will be necessary before drilling ahead. The Union is again making hole in No. 1 Theta, northwest of the old Belridge Field, in a blue shale at 2,415 feet, following an unsuccessful production test made around the 2,000-foot level. The Associated is making rather slow progress in its Fresno County wildcat near Huron and, although spud was made several

(Continued on Page 100)

# OPERATORS PLANNED TO FOLLOW SALE OF NAVAJO OIL LEASES

FARMINGTON, N. Mex., July 2.—The Navajo oil lease sale held at Santa Fe June 23 resulted in the sale of every exploratory lease offered and increased the tribal funds by $64.800. The three tracts adjacent to the Tocito structure, which is as yet unproven although two wells have been drilled on it, and one tract adjacent to Table Mesa were offered but no bids were made on any of them. It was quite evident that the large operators had agreed among themselves as to what territory each would take and there was no competitive bidding by them on a tract the other wanted. A local pool ran the bidding up on Chimney Rock to the extent of its financial ability to bid, but it was evident that the Marland Oil Co. intended to take it for it raised each bid from $500 to $1,000 instantly.

The bidding on the other exploratory leases were much the same, with the exception of Royal Arch which, when first offered, received no bid. It was then that a Farmington man, who was quite familiar with the geology of all the structures offered, formed a pool of northern New Mexico men who informed the auctioneer that bids would be made on the Royal Arch if again offered. It was put up again and when the new pool began to bid another bidder that was supposed to represent the Munoz interests also began to bid and it was run up to $3,100 and knocked off to the members of the pool. Five New Mexico prominent business men and officials and one California man are reported to be in the pool. Some of the same men are in a pool that purchased tract C in the Ute pasture. It is reported here by parties in close touch with these pools that some prominent operators will develop each of these exploratory tracts on a percentage basis and that operations on each will start as soon as the leases are approved by the Secretary of the Interior.

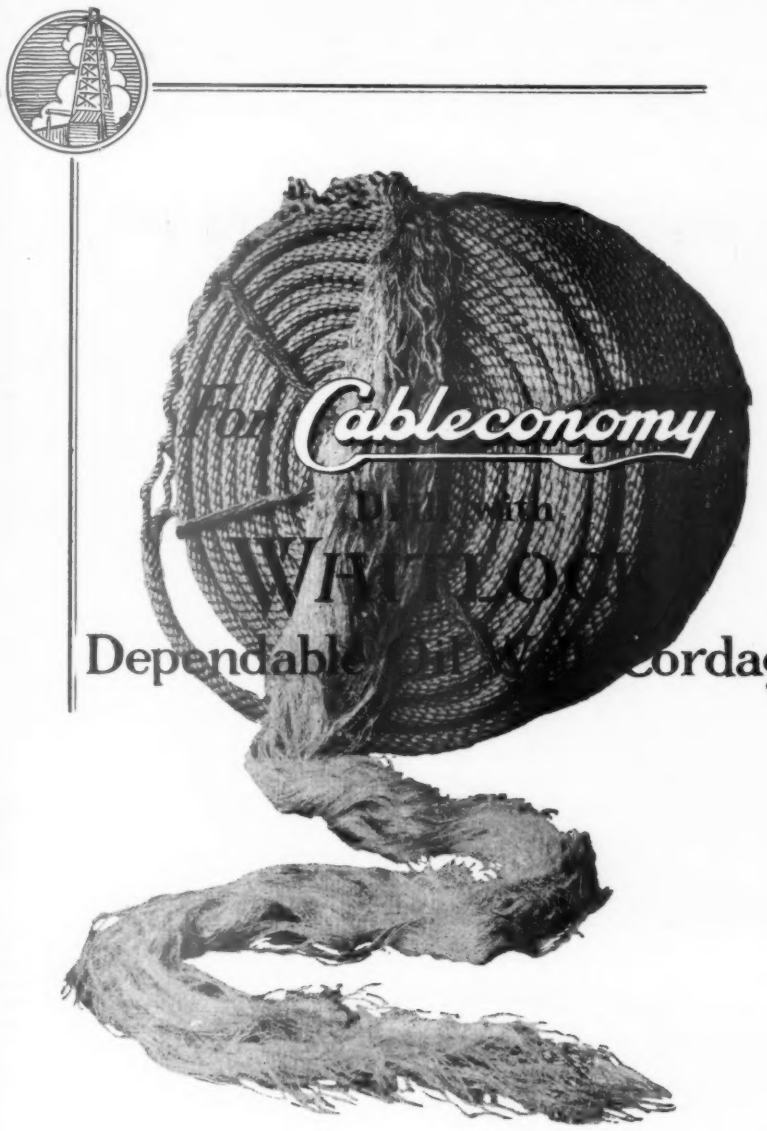
**To Start on Chimney Rock**

It is also reported that the Marland Oil Co. will start operations on the Chimney Rock structure as soon as the lease has been approved. No statement has been made as to the intentions of the Doheny interests but it is known that they were the owners of considerable acreage adjoining the tracts purchased at the last sale.

Considerable publicity was given to an alleged sale of a half interest in the Rattlesnake structure by the Santa Fe Co. (the name of the Munoz Oil Corp.) just before the sale. The representatives of the Munoz interests here deny any knowledge of such sale and state that the home office in New York City denies it was made. A half interest was sold to the Continental Oil Co. nearly two years ago and that company has since that sale been conducting all development work, including the construction of a 500-bbl. refinery at Farmington and a 92-mile pipeline to Gallup from the Table Mesa and Rattlesnake structures. No doubt the figure of $3,700,000, which was given out as the consideration paid, was based on an estimate of what the Santa Fe Co. would receive without further investment.

More trouble has been encountered in the Erdman well on the Red Mesa struc-

(Continued on Page 104)

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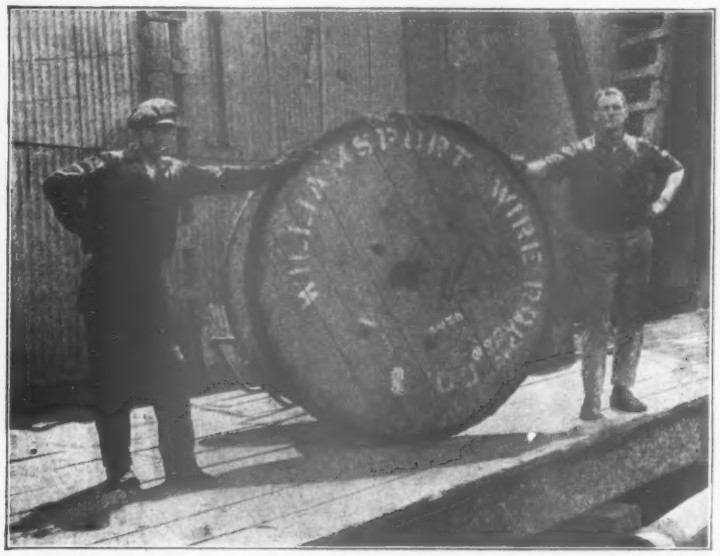


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# Spindletop Deep Sand Surprises

## Production for the Last Two Days of the Week Averaged 19,185 Bbls. of Which 17,985 Bbls. Came from New Section

By P. L. McGreal
*Staff Correspondent, Gulf Coast Fields*

HOUSTON, Tex., July 5.—The old Spindletop Pool, the first productive spot in the Gulf Coast region and the third in Texas — Nacogdoches nd Corsicana antedating it—is the surprise of the week, with a daily average output for the last 2 days of the week of July 3, of 19,185 bbls., of which 17,985 bbls. is coming from the recently opened deep sand section and the balance from the old shallow sand area. It is the record for the old pool since the boom days back in 1901, 1902 and 1903 and has stimulated activity in the deep sand region on the south, east and north sides of the "hill" or dome.

The Yount-Lee Oil Co. led off with No. 6 McFadden on the southeast, which came in Tuesday flowing 3,000 bbls, 25.1 gravity oil, at 2,800 feet. Screen was set in 40 feet of sand at 2,760-2,800 feet. No. 5 Gladys on the north side, followed, flowing 5,000 bbls. at 2,770-2,800 feet, 29 gravity. Same company's No. 1 Davis came in late in the week at 2,860-2,900 feet flowing 6,000 bbls., 26 gravity. The Gulf Production Co. added to the total with its No. 1 Weed, lot 6, J. Doubit survey, flowing 2,500 bbls. through two ½ inch chokers. Screen was set at 2,860 feet. The oil is 23.5 gravity. None of these wells is showing any water yet. The deep sand production is divided as follows: Yount-Lee Oil Co., No. 2 McFadden, 75 bbls.; No. 3, 450 bbls.; No. 4, 160 bbls.; No. 5, 950 bbls.; No. 6 choked to 1,800 bbls.; No. 3 Gladys, 150 bbls.; No. 4, 900 bbls. and No. 5, 5,000 bbls.; No. 1 Davis, 6,000 bbls. Gulf Production Co. No. 1 Weed, 2,500 bbls. Old shallow sand section, 1,200 bbls. Total 19,185 bbls.

The Yount-Lee Oil Co. has locations for Nos. 7 and 8 McFadden, No. 6 Gladys and No. 1 Trembly. The Gulf Co. has made locations for Nos. 2-A Weed, No. 3-A Weed and No. 4 Weed. The Sun Oil Co. is drilling No. 1 McLain at 2,955 feet with a location for No. 2 McLain. The Rio Bravo Oil Co.'s No. 1 Texas and New Orleans Ry. is drilling around 1,765 feet. Both the Rio Bravo Oil Co. and the T. & N. O. Ry. are subsidiaries of the Southern Pacific Railroad. Hines and others' No. 1 Quinn is drilling below 2,845 feet. O. Barbee's No. 1 Garrick is at 2,135 feet. Paggi & Co.'s No. 1 Gordon is at 980 feet. Brown-Williams' No. 1 Gladys is shut down. The Seven Oil Co.'s No. 2 Trembly is drilling at 876 feet and the Unity Oil Co.'s No. 88 McFadden is rigging.

The Yount-Lee Oil Co. developed the deep sand on the McFadden block on the southeast side of the Spindletop Pool in January last at 2,780 feet, with a well flowing 5,000 bbls. initial output, 24 gravity, temperature 70 degrees. Efforts to find a deep sand date back to 1914, but the work was not continuous. The Yount-Lee Co. prosecuted the development work vigorously and when it was seen that the wells held up in fairly nice shape other operators entered the pool and commenced work on acreage which they had held for years. The older coastal pools which have deep sand sections including Spindletop are: Humble, Sour Lake, Batson and Vinton. The deep sands are on the east side at Humble, the north and southwest at Sour Lake, northwest at Batson and southwest at Vinton. The southwest side at Sour Lake and northwest at Batson have not been very prolific to date. The east side at Humble was one of the richest areas in the whole Coastal region. It was opened in 1914 and is still producing.

The other districts, like West Columbia, Goose Creek, Orange and South Liberty, might be said to have been deep sand propositions from the beginning, and, this is true, too, in a measure of the Hull Pool. The latter is the only pool in which production in commercial quantities has been found on all sides, or flanks of the dome. The Boling Pool is still in the semi-developed stage and no one can predict what the result will be.

Spindletop now ranks second in production among the Coastal Pools, but it is questionable if it will long maintain that place. Judging from the experiences of the past in these pools one finds the drillable area limited and there is no assurance that the new deep sand section there will be an exception. However, the four new wells, and all big, coming in together serves to recall the early boom days of the pool and when old timers meet they become reminiscent. Practically all the executives of the major companies in this region date their entry into the Coastal Country back to Spindletop.

### Completions During Week

Wells completed during the week number 27, of which 7 were dry and 2 salt-water holes. The new production aggregates 24,524 bbls. or 1,510 bbls. more than during the entire month of June. The above statement will tend to show the erratic nature of the Coastal Pools, which are in a class by themselves, an outstanding characteristic being a freakish irregularity about the occurrence of oil bearing sands that is not found in any other field in the same degree. Five wells were bailing at the close of the week.

The following is a resume of the work during the week:

| District | Comp. | Prod. | Dry. | Slt.w. | Big. |
|---|---|---|---|---|---|
| Boling | 3 | 100 | 2 | 2 | 1 |
| Batson | 2 | 14 | 0 | 0 | 1 |
| Goose Creek | 2 | 950 | 0 | 0 | 1 |
| Humble | 0 | 0 | 0 | 0 | 1 |
| Hull | 2 | 4,550 | 0 | 0 | 0 |
| High Island | 1 | 25 | 0 | 0 | 0 |
| Jennings | 2 | 40 | 1 | 0 | 0 |
| Orange | 7 | 2,220 | 1 | 0 | 0 |
| Spindletop | 4 | 16,500 | 0 | 0 | 0 |
| Saratoga | 1 | 0 | 1 | 0 | 0 |
| Sour Lake | 2 | 0 | 2 | 0 | 0 |
| Vinton | 1 | 125 | 0 | 0 | 1 |
| Total | 27 | 24,524 | 7 | 2 | 5 |

### Estimated Gross Daily Average

As a consequence of these completions the estimated daily average gross production for the week of July 3 is placed at 107,070 bbls., or 13,090 bbls. more than the estimate for last week. The estimate for the South Texas pools is 93,010 bbls., and for those in South Louisiana it is 14,060 bbls.

Compared with last week's estimate Spindletop increased 11,825 bbls.; Hull, 1,200 bbls.; Goose Creek, 900 bbls.; Big Creek, 50 bbls.; Orange, 125 bbls.; Sour Lake, 60 bbls., and South Liberty, 55 bbls. The Boling Pool decreased 900 bbls.; Humble, 55 bbls.; Vinton, 140 bbls. and West Columbia, 50 bbls.

The estimate for each pool is as follows:

| Pool— | Daily Average |
|---|---|
| Boling | 2,300 |
| Batson | 1,445 |
| Blue Ridge | 755 |
| Big Creek | 975 |
| Barber Hill | 700 |
| Dayton | 30 |
| Damon Mound | 800 |
| Edgerly (La.) | 780 |
| Goose Creek | 11,500 |
| Humble | 3,955 |
| Hull | 20,050 |
| High Island | 95 |
| Jennings (La.) | 1,200 |
| Lockport (La.) | 5,500 |
| Markham | 75 |
| Nash dome | 900 |
| Orange | 9,975 |
| Orchard | 450 |
| Pierce Junction | 1,575 |
| Piedras Pintas | 75 |
| Spindletop | 15,750 |
| Saratoga | 1,550 |
| Sour Lake | 5,610 |
| South Liberty | 5,325 |
| Vinton (La.) | 6,500 |
| West Columbia | 9,000 |
| Welsh-Anse La Bute (La.) | 80 |
| Miscellaneous | 120 |
| Total | 107,070 |

### Southwest Fields

The estimated daily average gross output for the Southwest Fields for the same period is 38,530 bbls., compared with 38,953 bbls. last week, a decrease of 423 bbls. The estimate for each field is as follows:

| Field— | Gross |
|---|---|
| Luling | 21,250 |
| *Mirando | 9,485 |
| Somerset | 2,010 |
| Callihan | 125 |
| Rockdale-Minerva | 960 |
| Lockhart (Lytton Springs) | 4,700 |
| Total | 38,530 |

*Includes Webb, Jim Hogg, Zapata Counties and part of Duval County.

| | |
|---|---|
| Grand total for week | 145,600 |
| Grand total last week | 132,933 |
| Net increase | 12,667 |

### Other Completions

In the Hull Pool, the Republic Production-Houston Oil Co.'s joint No. 128 Dolbear came in flowing 3,000 bbls. at 2,200 feet and the Gulf Production Co.'s No. 68 Phoenix was completed at 3,200 feet with initial flow of 1,500 bbls. The Texas-Vacuum Oil Co.'s joint No. 2 Hanna is making 50 bbls., 10 per cent water, at 3,140 feet.

More wells were brought in in the Orange Pool than for several weeks. The best well is the Brownie Babbittee Oil Co.'s No. 2 McLean, a workover, flowing 1,500 bbls. at 3,550 feet. The Rycade Petroleum Corp.'s No. 5-B State land, in Cow Bayou, will make a pumper at 3,390 feet as will the Kishi Development Co.'s No. 7 McGuire, on the east side of the bayou at 3,580 feet. It, too, is a workover. The Gulf Production Co.'s No. 4 Hager fee, another workover on the east side of the bayou, is heading 270 bbls. at 4,200 feet. The Peer Oil Co.'s No. 1 Mecom blew out around 2,900 feet, the gas pressure throwing 20 joints of 4-inch drill stem from the hole. The Gulf company has a crane on a barge in Cow Bayou and is recovering the drilling rig, which went into a crevice when its No. 23 Hager fee blew out last week.

At Boling, the Humble-Gulf joint No. 9 Hawes is making 100 bbls. at 3,150 feet. Same interest's No. 13 Hawes is now heading 950 bbls. It came in last week credited with initial flow of 1,500 bbls., then dropped to 1,100. The Oxford-Southern Exploration Co.'s No. 5 Floyd was abandoned in salt water at 3,500 feet. The Sun Oil Co.'s No. 11 Taylor is a salt water well at 4,350 feet. The Texas Company got salt water in No. 5 Taylor at 3,600 feet and is bailing No. 1 Floyd at 2,500 feet.

In the Goose Creek Pool, the Gulf Production Co.'s No. 33 State land is flowing 900 bbls. at 3,500 feet. The Powell Oil Co.'s No. 6 Bryan will pump at

(Continued on Page 111)

# TRANSCONTINENTAL STARTS THIRD TEST IN NIGGER CREEK DISTRICT

By Special Correspondent

CORSICANA, Tex., July 1.—While no completions were recorded in the East Central Texas area up to the close of this weekly review a number of important tests in the territory reported progress. An interesting wildcat is that of Robert R. Penn on the Hardy-Peck land, 4 miles northeast of Rogers, and in Bell County, just west of the Milam County line. Early this week it had reached a depth of 1,300 feet. It went into the Austin chalk at 625 feet and completely penetrated it at 1,134 feet going at once into the Eagle Ford shale. The test is 150 feet north of an old well drilled for water in 1888, which showed oil and is said to have made a flow at 1,467 feet. The oil sand was cased off, the story goes, as the drillers sought fresh water, which they must have got as the oil was forgotten. The Penn well is due for a showdown on this alleged oil sand at any time.

The Transcontinental has started work on a third test in the Nigger Creek district west of Mexia, and has a derrick up on the Cochran farm for its third try for the Woodbine pay.

The Transcontinental Oil Co. is shut down on both No. 1 Ross and No. 1 Rossen, west of Mexia, in Limestone County. No. 1 Ross, which was reported abandoned, but to which the company went back in added efforts to make a well of it, was drilled to 3,057 feet and plugged back to 2,897 feet. Four-and-a-half-inch pipe was set and the plug drilled to 2,990 feet, where operations were again suspended. In No. 1 Rossen, about 1,500 feet west of the Ross test, casing was set at 2,786 feet and sand was cored to 2,840 feet. The top of the core showed a little oil but the bottom showed salt water. Six-and-a-quarter casing was set and the hole will be drilled deeper. The company has a derrick up for No. 1 Cochran, on the Varela survey, in another part of the county.

The Pure Oil Co.'s No. 2 Stockton, Capp survey, Limestone county, has sand from 3,173 to 3,177 feet, total depth 3,177 feet, and was setting pipe at 3,151 feet.

Patty Kosse has abandoned No. 1 J. T. Curry, J. Land survey, Limestone County, total depth 2,505 feet.

In Cherokee County the Humphreys Corp.'s No. 1 Owsley, Dillard survey, was last reported drilling below 2,800 feet. The Humble Oil & Refining Co.'s No. 1 Earl & Ragsdale, N. Johnson survey, was drilling below 2,300 feet. The Humphreys Corp., in its No. 2 Clapp, Jewell survey, cored sand at 3,635 to 3,640 feet, which was bailed dry. It was then drilled 8 feet deeper without results and will go on down for the hoped-for deep pay. The Humphreys Corp. is reported to have started drilling No. 1 Boling, Walter survey. Nicholle and others' No. 1 Hill, Burak survey, has a fishing job at 450 feet. This test has thus far suffered troubles with caving hole and the fact that while pulling about 500 feet of 10-inch pipe only 300 feet of it was at first recovered. The crew has been fishing since.

In Anderson County the Humble Oil & Refining Co.'s No. 1 Southern Pine Lumber Co. land, Jones survey, was drilling in shale below 2,416 feet.

In Ellis County, Simms Oil Co.'s No. 1 Griffiths, De La Pena survey is at a total depth of 2,640 feet, but has had trouble with fishing jobs. The Magnolia Petroleum Co.'s No. 1 Gentzeldanner, S. Mayfield survey, was drilling in lime at 1,651 feet.

In Grimes County, the Newblock Oil Co. was coring a sand topped at 2,786 feet and reported to have an oil showing.

XUM

# Oil Well In Carolina-Texas Field

## Associated Tide Water Co.s' Test in Webb County Gas Area Gauges 51 Bbls. Hour 34.2 Gravity in Steel Storage

By B. D. Stevenson
*Staff Correspondent, Southwest Texas Fields*

SAN ANTONIO, Tex., July 5.—Associated Tide Water Oil Co. has brought in the first oil well in the Carolina-Texas gas field in Webb County, Texas. No. 2-A Webster topped a sand at 2,600 feet and drilled 10 feet in. It came in Wednesday and was put on quarter-inch choker and Thursday morning started off at the rate of 40 bbls. an hour in steel storage and late in the afternoon gauged 51 bbls. an hour in steel storage.

Prophecies that oil would be found "somewhere around" the Carolina-Texas gas field frequently expressed since the field was discovered are fulfilled. The well is located 150 feet each way out of the NW cor. of the SW NE of Survey 684 of Webb County and is about a mile southeast of the discovery gas well of the Carolina-Texas Oil & Gas Trust of Wilmington, North Carolina, drilled in about five years ago. The well is 7 miles northeast of Oilton and 10 miles northeast of the Schott Field at Mirando City, which is the nearest oil production. It is at a point where the Reynosa escarpment crosses the ridge, called by some an anticline and running northwest and southeast through the Carolina-Texas Field on the northwest and the Cole gas field, 10 miles to the southeast.

The oil is 34.2 gravity, while the oil in the Mirando Field is all around 18 to 22 gravity and a lubricating oil base with little or no gasoline. The well is on a 60-acre lease owned by Usher Carson, formerly state treasurer of Oklahoma, and in which he sold the working half interest to the Associated Oil Co. before the merger with the Tide Water. The Tide Water early this year drilled a gas well near this location and after bringing it in trouble developed and the well was finally lost and No. 2-A was drilled as a replacement well. It cored the sand some days ago and from the appearance of the sand it was expected this, too, would be a gas well. The company has been working for more than a week making the test. There is 18 feet of open hole at the bottom of the well and the sand is described as somewhat loose, especially at the bottom.

The well started bailing Tuesday and bailed down to where it had 1,700 feet of fluid in the hole. The bailer was then run to the bottom and brought up some oil. The well was hooked up to turn into the gas pipeline and so was shut down for the night and closed in. Wednesday it was disconnected from the gas pipeline and hooked up to go into steel storage of which there were two 1,000-bbl. tanks on the lease. It was then bailed down, but failing to come in, was swabbed. After some swabbing it followed the swab out a few times and subsided each time. Then it came in and stayed in with a steady stream. It was turned into the slushpit till it had cleaned itself and then into storage and choked down, the choke being reduced to a quarter inch. Thursday morning it was making 40 bbls. an hour and by late in the afternoon had increased to 51 bbls. an hour. Most of the gas in the field is being produced from a 2,000-foot sand. The 2,600-foot sand was drilled through in other tests in the gas area of the field and carried oil. Gas wells in the field have carried some gasoline, one analysis showing .41 of a gallon to 1,000 feet in one of the wells of the Carolina-Texas Oil & Gas Trust. Last year a well was drilled that showed a trace of crude oil in the gas.

### Means Drilling Campaign

Discovery of oil means a big drilling campaign at once. The oil is high gravity and the kind the industry wants. Associated bought the working half interest in the 20 acres the well is on and the 40 acres next south of it from Usher Carson. The Texas Company owns the 20 acres east of the well and the 40 acres north of it. The Texas Company will have to drill an offset at once in the southwest corner of its 40 acres next north of the well.

Mrs. Townsend, widow of the former manager of the Bender Hotel in Laredo, owns the 15 acres next west of the well. Associated, Texas and Gulf each own additional acreage in Survey 684 and a considerable amount of the acreage in the block is in the hands of lease speculators. Other acreage in all directions in other sections adjoining 684 is privately owned also so that plenty of acreage is open for operators who want to drill and undoubtedly, if the well holds up in production, there will at once be a big drilling campaign.

The well is approximately a mile and a half east of the Johnson-DeTray gas well in the northeast corner of Survey 1012 which blew out early in the year and is still running wild and uncontrollable from a sand at approximately the same depth.

One of the noticeable features of the well is that it again bears out the experience in other pools of the Mirando district in that the oil is found on the east side of the gas area, that having been the case in the Cole Field and all up and down the string of Mirando Pools and also on the Holbien land northeast of the Henne, Winch & Fariss Pool.

Water is scarce in the Carolina-Texas Field and all the wells drilling there are having trouble getting enough water to drill with. The Associated well was drilled in with salt water from the Johnson-DeTray cratered wild well.

It is approximately 7 miles from the Associated well to the nearest point on the Texas Mexican Railroad at Oilton and Associated is arranging to lay a pipeline at once from the well to the railroad and is also rushing additional steel storage to the field to take care of the production.

Houston Gulf Gas Co.'s No. 1 in the southwest corner of the south half of Block 12, in the Bruni tracts of the Mirando Field, which came in a week ago swabbing 800 bbls., has started a new area of activity in that part of the field. Moody Oil Corp. is rigging up in the southwest corner of the north half of Block 12. Ruthada is moving in rig in the northeast corner of Block 18 for its No. 4 on that lease to drill a diagonal offset. Murchison & Fain are moving in to drill a west offset in the southeast corner of Block 13 and a south offset is to be drilled in the northwest corner of Block 19. Wheatley & Carter are preparing to move a rig to the unplatted Bruni tract immediately west of Block 71 of the Edgington tracts in the Puig ranch. Murchison & Fain are rigging up on their No. 2 on the northwest corner of the southeast quarter of Block 13 to offset a well of the Gibson Oil Corp.

Murchison & Fain's No. 1, which came in three weeks ago swabbing 850 bbls., is now making 400 bbls. a day and has already paid for itself, contract price of wells in the field being about $6,500. Kennedy and others have set casing on their No. 2 in the southwest corner of the northeast quarter of Block 13, a north offset to Murchison & Fain's well. Kirkpatrick & Lucas are drilling at 1,300 feet in No. 1 Puig on the Kirkpatrick tract in the Puig ranch. O W. Killam has plugged back from 2,800 feet in his No. 1 Bruni on Block 7 of Survey 835 and will save the gas sand at 1,634 feet that made a 35,000,000-foot well when it was first brought in at that depth before drilling deeper.

Crown Central-Rycade Oil Corp. have the derrick up for No. 2 B. Bruni, in Survey 16, located 490 feet from the south line and 150 feet from the east line. No. 10 Bruni, in Block 17, located 610 feet from the north line and 200 feet to the east line, at 1,732 feet came in swabbing 200 bbls. of oil. No. 1 Bruni has set casing on Block 43 at 1,723 feet located 150 feet from the north and west lines. No. 17 Bruni in Block 43 is located 618 feet from the north and 200 feet from the east lines, the location having been changed from previous announcement. It has spudded in. No. 13 Bruni on Block 17 has built derrick 150 feet from the south and east lines. No. 14 on Block 17 is moving in machinery 1,078 feet from the north line and 200 feet from the east line. No. 15 in the west half of Block 43 has built derrick.

Crown Central Petroleum Corp. and Staley & Wynne are drilling at 1,200 feet in No. 6-A Bruni on Block 14, have the derrick up for No. 7-A on Block 14, located 978 feet from the north and 150 feet from the east line, brought in No. 2-B on Block 14, swabbing 400 bbls. at 1,730 feet, located 610 feet from the south and 150 feet from the east line, are moving in rig for No. 3-B on Block 14, located 1,078 feet from the south and 150 feet from the east line.

National Refining Co. is moving tools to the east half of Block 43 to drill No. 2, which will be a south offset to No. 1 of Ruthada Oil Co. in the southeast corner of the east half of Block 18. George Echols has abandoned at 2,001 feet his No. 1 in the northwest corner of Block 69 a full mile east and 1 mile south of nearest production in the field.

### Tested Oil and Salt Water

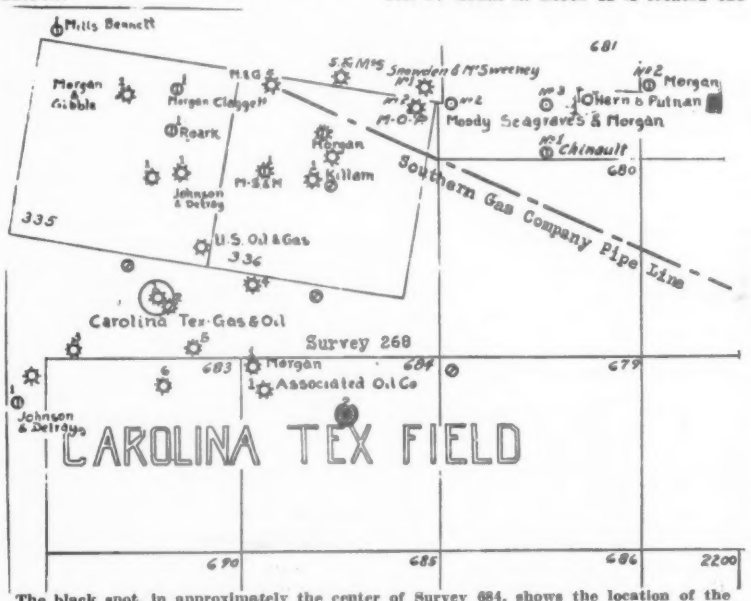
Stroube & Stroube, in the southwest corner of Block 78 of the Edgington tracts in the Puig ranch tested a little oil and salt water at 1,780 feet with casing set at 1,761 feet. It may be that it drilled a little too deep, as the other producers got production a little higher up. The well is only a little over 300 feet (one location) northeast of the Ball No. 1 on Block 13 that came in a big well extending the field a mile to the east and is almost too close to be a dry hole. It has not yet been abandoned. They have a derrick in the northeast corner of the tract, but may not drill it till No. 1 is either a well or a failure.

Staley & Wynne's No. 7 Bruni, in the south 20 acres out of the west half of Block 13 at 1,742 feet swabbed 500 bbls. of oil and offsets one of their own wells in the northeast corner of the west half of Block 18, the Ruthada Oil Co.'s No. 2 in the northwest corner of the east half of Block 18 and a Murchison & Fain well in the southwest corner of the southeast quarter of Block 13. Staley & Wynne's No. 8, in the southwest corner of the west half of Block 18, has set casing at 1,714 feet and is ready to drill in. No. 9, in the northeast corner of the west half of Block 18, at 1,731 feet, came in swabbing 400 bbls. No. 10, at 1,716 feet, has set casing 150 feet east of the center of the west line of the west half of Block 18. No. 11 has erected derrick and is moving in 510 feet from the south line and 150 feet from the west line of Block 18.

### Sun Oil Operations

Sun Oil Co., in a 60-acre lease off the west end of the north half of Block 44, brought in a well swabbing 600 bbls. of oil, located 600 feet from the west and 150 feet from the north line, and has set casing at 1,685 feet in No. 3 Bruni in the east half of Block 45, located 550 feet from the west line and 150 feet from the north line, bringing it about a quarter of a mile west of the well noted above completed on Block 44. Ruthada Oil Co.'s No. 2 Bruni, in the northwest corner of the east half of Block 18, came in swabbing at the rate of 400 bbls. of oil at depth of 1,746 feet and with casing set at 1,730 feet. Ruthada, with two wells completed, one in the north-

(Continued on Page 106)




The black spot, in approximately the center of Survey 684, shows the location of the discovery oil well of the Associated Tide Water Oil Co. in the Carolina-Texas gas field in Webb County, Texas, which was brought in Wednesday of last week. It was drilled for a gas well and the sand indicated it would be a gas well when cored into. Top of sand is at a depth of 2,640 feet. A full account of the well will be found elsewhere in this issue of The Oil and Gas Journal. Acreage is not closely held but is in scattered hands with Associated, Texas and Gulf of the big companies holding the best of the close in stuff and with small blocks of 10, 15 and 20-acre leases in the hands of lease speculators. The well is approximately 7 miles northeast of the Texas Mexican Railroad at Oilton and on Thursday of last week was gauging 51 bbls. an hour in steel storage through ¼-inch choker and increasing.

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# Southeast Extension at Sunburst

## Stray Sand Well Produces 50 Bbls. 3 Miles from Production. Movement to Moderate Operations Is Opposed

By F. B. Taylor
*Staff Correspondent, Rocky Mountain Area*

CASPER, Wyo., July 3.—Another extension has been made to the Sunburst Field in Montana. The Sturdevant Oil Co. in Section 11-34-1, about 3 miles southeast of the field wells, came in a producer. The new strike found its oil in the stray sand that has opened up in this territory and is estimated at 50 bbls.

The company expects to drill the well down to the Ellis sand which should come in at 1,500 feet and the stray sand was found at 1,383 feet. This stray sand is not found in the main field and has only showed up in the newer extension to the southeast. It was at first looked upon as a freak and but little attention paid to it, but now that it has shown commercial production in several wells, the operators are beginning to sit up and take notice.

In the summer of 1922, when the field was first being mapped by A. J. Collier of the Geological Survey, some indications towards a southeast structural high were noticed. Close watch on well records drilled in that direction failed to show a pinch in the sand or deepening of the strata found in other parts of the field where the pool seemed to stop, and this, together with the later well measurements, showed there was an arm extending to the southeast of the main field.

Now that this stray sand has shown up as an oil horizon, it is further believed that the new sand will cover a much larger territory than is expected at present, while the Ellis sand below it may pinch out farther southeast of the present drilling. The new stray sand may lead to development as far south as the Marias River.

It now becomes a question as to where the stray sand belongs in the geological column. The Ellis sand is Jurassic and is the Sundance sand of Salt Creek and other Wyoming Fields. It is often found in more than one stratum so that the stray sand may be another upper layer of the Ellis. It might also be lower Cretaceous, correlating with the Morrison. The Kootenai, Cloverly and Dakota-Lakota are all one formation and do not belong at the depth where the new stray sand comes in.

The Illinois Pipe Line Co. has started work on the new pipeline from the field to Shelby. The work is starting at the field end and the line will run nearly due south to Shelby. About 6 miles of pipe have been strung on the right of way and the rest of the steel is waiting at the railroad for trucks. About 200 men are employed in the laying of the line as the company wishes to push the work through as fast as possible.

### Mystery Wells

A slowing up in new work is noticeable in Sunburst. This has been advocated by a great many of the older operators there, but men on the inside state there is a new element in the Sunburst Field that makes concerted effort a great question. It appears that unlike many of the other fields, Sunburst has attracted small capital from regions where oil development is unknown and these new operators seem to have the mistaken idea that every other operator is against them and they must fight for their own. With this idea in the minds of the newcomers, they listen to the advice of older operators with fingers crossed and drill new wells that require offsets regardless of the fact that the Sunburst market recently was cut because of the overproduction of crude and that the field is at present running on a pro-rate.

A great air of secrecy prevails among new operators, even the leases are being operated in some cases by trustees, in order that the true owners may not become known. A wildcat well drilling near Devon has been made a mystery well with armed guards who permit no one to go near the work. It is something like the old days back in Pennsylvania when mystery wells were drilled so as to create excitement and sometimes enable the operators to unload if the hole proved dry.

Work has slowed up in northern Montana also, due to heavy rains, and this may be a factor in the lessened number of new wells starting. The roads at Sunburst are very bad and truckers are having trouble with heavy loads. The bad roads have affected the pipeline work, but the new tank farm at Shelby, being built by the Illinois Pipe Line Co., is making good time.

### Holding for Higher Prices

The operators in Sunburst Field are holding for higher prices on contract crude. Those having production with contracts expiring in the near future show little inclination to make new contracts under the present market of $1.05, and recently the Collins Oil Co., one of the new firms operating in the southeast extension, contracted its output of stray sand oil at $2 per barrel.

Another good outlet for Sunburst Field crude is seen in a new rate made by the Great Northern Railroad and which will go into effect July 19. This new rate cuts the freight cost on crude to 37½ cents per hundred pounds to Minneapolis and to 39 cents to Duluth and Superior.

With the new rate in effect, Sunburst crude can be shipped to any of the small skimming plants and the gasoline content taken off, then the remaining fuel oil will still show a respectable profit when delivered in either of the above cities. The growth of oil burners for heating homes in the winter has caused a heavy demand for this grade of oil and also the mining companies in the Minnesota iron region have found the fuel oil very suitable for their needs. In this way the oil men of Sunburst consider they can dispose of all surplus crude over what the pipeline companies need and thereby cause a better quotation to be paid in the field for the crude direct from the wells. Another refining plant is to be built at Shelby on the strength of the freight rate reduction, according to rumors, and small plants are being contracted by small leaseholders to skim their oil in the field at the wells. These rates also apply on the Canadian Northern Railway and the Soo Lines.

The people of Montana will vote at the next general election on having a 3-cent tax imposed upon gasoline. Petitions have been circulated throughout the state and sufficient signers have been found to place the question on the ballot in the next general election.

Two wells drilling into the Lake Basin Field, about 35 miles northwest of Billings, in Stillwater County, should find the pay shortly. The Barnsdall-Foster well is drilling at 2,800 feet and the Record Petroleum Co. has a well at 2,785 feet.

In the Sunburst Field, the Fulton Oil Co. brought in a 300-bbl. producer on Section 31-35-1 in the Ellis sand at 1,450 feet. The Dakota Montana Oil Co., in Section 31-35-1, found the Ellis sand at 1,485 feet and production estimated at 40 bbls. The Collins Oil Co. has a producer in Section 28 35-1 in the stray sand that will make 300 bbls. at 1,430 feet. The Ohio Oil Co. found a duster in Section 10-35-2 and the Ferdig interests brought in three dry holes, all in the central part of the field. The Tri-State Oil Co. brought in a small producer in Section 30-35-1 in the Ellis sand at 1,465 feet.

### Wyoming Operations

In the Wyoming fields the reports are routine in the main, the Midwest Refining Co. brought in two good wells in the Salt Creek Field and 11 others that will make producers of nominal size. Both the large wells were in the first Wall Creek sand.

The Wyoming Associated Oil Co. found a producer good for 2,300 bbls. in Section 26-40-79 at 1,008 feet and the Salt Creek Consolidated Oil Co. brought in another good well that will make 500 bbls. at 1,075 feet in Section 31-40-78.

The Wyoming Associated Oil Co. brought in a producer at 1,915 feet in Section 30-40-79 that will make 20 bbls. and one in Section 23-40-79 at 1,603 feet that is a small pumper. In Section 2-39-79, the company has a small producer at 1,692 feet and in Section 26-40-79 the company has a 15-bbl. well at 1,444 feet. In Section 24-40-79, the same firm has a pumper at 1,608 feet.

The Midwest Oil Co. in Section 36-40-79 has a small pumper at 1,545 feet and one in Section 26-40-79 that will make 15 bbls. at 1,571 feet.

Up in the Big Horn Basin, in the old Torchlight Field near Greybull, Billy Richards struck a 15-bbl. well at 480 feet in the Kimball sand. This field is a very high grade crude with about 15 small producers operating. The oil goes by a small pipeline to Greybull and the field runs are carried with the Greybull runs.

The Utah Oil & Refining Co. spudded in the No. 7 on the Black Mountain structure about 30 miles east of Thermopolis and the Union Oil Co. of California has spudded in a wildcat on the Sunshine Dome in the south end of Park County.

### Colorado and Utah

In Colorado, the Union Oil Co. of California has the Gault Piatt well in Section 7-9-68 at 4,400 feet and the Muddy sand is expected within the next 50 feet. This well should come in a good producer as the recent completion on this lease is making 1,000 bbls. and is only two locations away from the drilling well.

In the new Moab district in Utah, the Shaffer-Midwest wells are drilling and should reach their objectives about the middle of the month. A new rig is building near the discovery well for another test of the producing sand, but the discovery well is about 250 feet below that horizon at present.

The Crystal Carbon Co. has started building on the Cisco Dome, where the Utah Oil & Refining Co. and the Midwest Refining Co. found gas last year. The Crystal Carbon Co. will place 30 carbon

(Continued on Page 111)

# PRESS TURNER VALLEY CAMPAIGN; DOHERTY TO TEST NOVA SCOTIA

By Victor Lauriston
*Staff Correspondent, Canadian Fields*

CHATHAM, Ont., July 3.—Declaring that Imperial Oil, Ltd., and its subsidiary, the Royalite Oil Co., are doing everything possible to assist in oil development by independent oil companies in Alberta. R. B. Bennett, K. C., a director of Imperial Oil, Ltd., recently issued the following statement making clear the company's attitude:

"It has been suggested that Imperial Oil, Ltd., has, in some way, been endeavoring to influence the action of the government or prevent the operations of the McLeod Oil Co. and other companies being proceeeded with. Such a statement is absolutely devoid of truth.

"Surely the general public cannot but know that Imperial Oil, Ltd., and the Royalite Oil Co. have lent casing, machinery and equipment and placed their most experienced men at the disposal of oil companies, having reason to believe that their wells may soon become productive.

"The fact is, Imperial Oil, Ltd., and its subsidiary, the Royalite Oil Co. are as deeply interested in their results of drilling by other companies in the Turner Valley as though it were their own work, for it is of primary importance that the field should be proven. These reports are circulated with malicious intent at a time when co-operation in the work in Turner Valley is most essential."

### Seek Oil in Nova Scotia

In Eastern Canada, H. L. Doherty & Co. of New York has closed a contract for exclusive drilling rights on an area in the province of Nova Scotia covering approximately 5,000,000 acres. The contract was made with the Nova Scotia provincial government and it is understood to cover practically all the potential oil and oil shale territory in the Province of Nova Scotia. It is also stated that the contract covers the entire area of Pictou Island, the entire length of which, according to the company's geological reports, is traversed by a well-defined alticline.

H. L. Doherty & Co. is sending a party of geologists from New York to make a more detailed survey of the territory under lease. The same company about a year ago made a similar contract with the provincial government of Prince Edward Island, and No. 1 test, located not far from Charlottetown, P. E. I., is now reported drilling at 1,400 feet depth.

Drilling in Nova Scotia will be commenced as soon as the geological survey is completed. The Province of Nova Scotia is practically untested territory, a few isolated drilling tests chiefly in Pictou having failed to develop any production. Large deposits of oil shale are known to exist, chiefly in Pictou County, and it is understood that the commercial development of these deposits may be undertaken.

In Ontario, Union Natural Gas Co. No. 11 deep test in Dawn Township, Lambton County, on the McGuire farm, Concession 7 road, was spudded in recently, and is now drilling.

### In Canadian West

In the Canadian West, Imperial Oil, Ltd., reports steady progress with its development campaign in Alberta. In the Jumping Pound district, 25 miles west of Calgary, Imperial Oil-Bow River No. 1, LSD 15, Section 12-25-5w5, is down 2,474 feet and drilling.

On the Sinclair structure, Imperial Oil-Highwood No. 1, LSD 3, Section 36-18-

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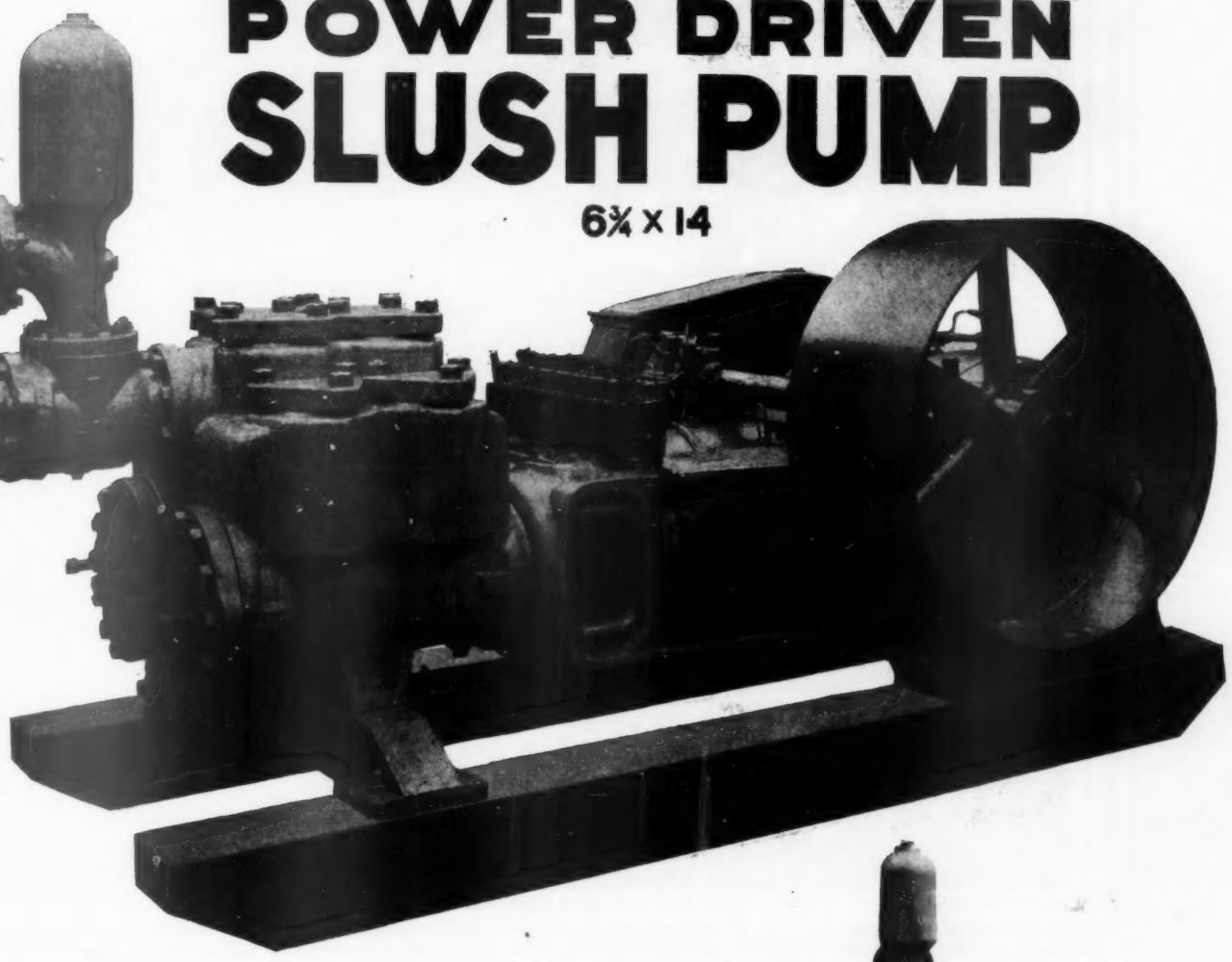

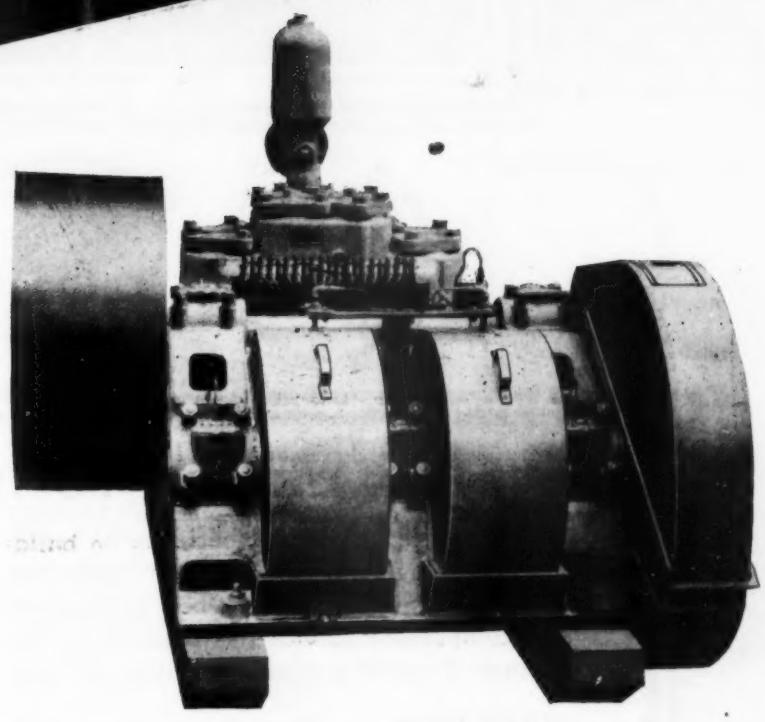

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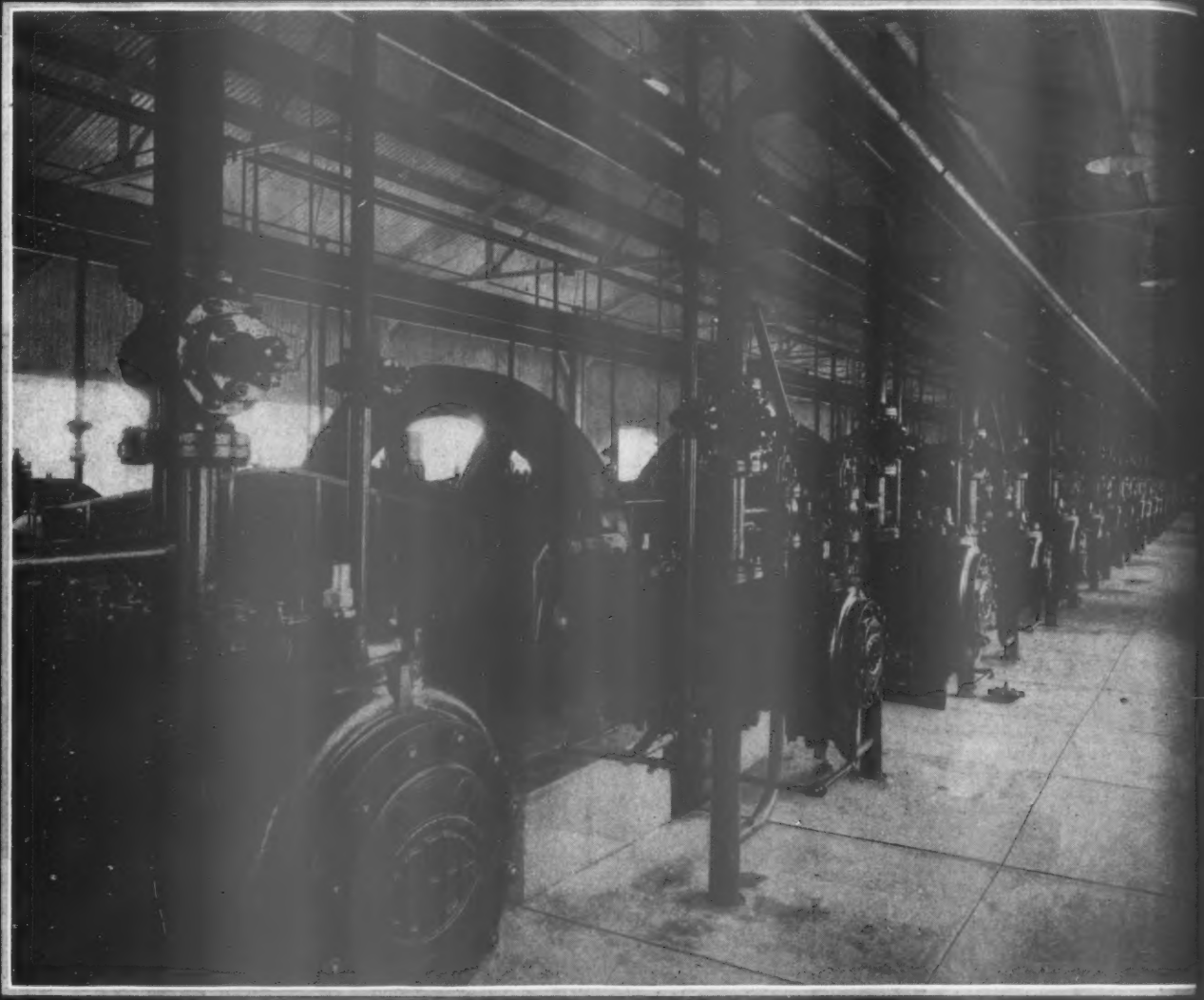

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The Power ends of sixteen Cooper Type-80 twin gas engines in Lone Star Gas Company's Breckenridge Plant.

# Wyandot County, O., Has 40-Bbl. Well

## Best Producer in Many Years. Wood County Reports 52-Bbl. Completion and Allen County Has 60 Bbls. in Lima

By Whit
*Staff Correspondent, Central West Fields*

FINDLAY, Ohio, July 5.—The completion of a 40-bbl. well in Ridge Township, Wyandot County, Ohio, is one of the most important finds of the week in the Central West Field, and the first commercial producer for that county in many years. A 52-bbl. well was struck in Perrysburg Township, Wood County, a little in advance of production, while in Allen County, in the Lima Field a 60-bbl. initial production was uncovered.

Indiana failed to make any strike of note while the well on the F. M. Leek farm, in the Allendale Field, of Wabash County, Illinois, produced better than 200 bbls. In Friendsville Township, same county, in the Bass Pool, a dry hole has been found on the Price farm close up to the good production on the Bass, indicating that the territory is of a spotted nature.

Drilling activity is increasing in the new Saginaw Field, in Michigan and the next 30 days should give leaseowners a better idea of what the extent of the field will be. The farthest north well on the Boldebuck farm struck sand at a much lower depth than the other 10 wells drilled in the field found the Berea and it does not make a very good showing unless a little deeper drilling and a shot brings forth the fluid.

### Lima Field

The old Lima Field of northwestern Ohio is holding its own and the bringing in of new wells which just about offset the decline in production. There were an even dozen reported for the week with a flush of 209 bbls. with one dry hole and one gas well, but there were at the same time 37 old wells pulled out and abandoned and the material that is in good shape will be utilized for the drilling of new holes.

The feature of the week was the completion by South Bend, Ind., producers, called the Ridge Gas & Oil Syndicate, in the northwest corner of a 4-acre lot, in the southeast quarter of the northwest quarter of Section 12, Ridge Township, Wyandot County, which had a flush of 40 bbls. Top of Trenton was struck at 1,361 feet and drilled 112 feet in the sand to a total depth of 1,473 feet. This well is not far removed from the dividing line of Wyandot and Hancock Counties and should bring about a little stir there in development work. Back in the early nineties Wyandot County was quite a producing section but the wells did not prove to be of the staying kind and hundreds were pulled out long before the close of 1900. Since then only a few straggling tests have been drilled but they all failed to make commercial producers until the completion of the C. A. Cooper lot well above mentioned and it will be closely watched for several weeks to see if it maintains its production as the Trenton formation usually does in other parts of the Lima Field.

The Oko Oil & Gas Co. has drilled in a test in the southwest corner of the Charles Thaiss farm, in the northeast quarter of Section 29, Perrysburg Township, Wood County and 1,400 feet northeast of the same company's No. 6 on the George Deverny farm. Trenton was tapped at 1,240 feet and drilled 33 feet in the sand and into salt water. When put on the pump the first 24 hours' gauge showed 200 bbls. of water and 52 bbls. of oil and is one of the best wells found of recent date in the field which is about 5 miles south of the town of Perrysburg and east of the Dixie Highway. The Oko Oil & Gas Co. is one of the newest companies in the Lima Field although all old-time operators that know the field like a book, and is rapidly becoming one of the foremost producing companies in the Lima Field. Mack P. Colt is president; M. J. Lynch, vice president and H. E. Myers, secretary-treasurer. Among the company leaders are such well known producers as W. E. Parmenter. Last fall the company was organized at Lima with a capital of $500,000. In January the capital was increased to $1,000,000 and since then another $100,000 has been added, making the capitalization $1,100,000. The company has holdings in Kansas and Oklahoma and in Wood, Hancock, Allen and Mercer, in the Lima Field as well as in Jay County, Indiana, in the Hotmire Pool. Mr. Colt was with the National Supply Co. for more than 30 years.

In Bath Township, Allen County, Charles Geselchen and others made a nice strike in No. 6 on the William Lenney farm, Section 12, showing 60 bbls. flush. No. 5 completed a week or so ago showed 50 bbls. No. 7, same farm, is drilling. C. A. Peavey and others are drilling No. 6 S. H. Vore farm, same section, and this firm pulled out old wells Nos. 12 and 13 on the Elias Lewis farm, Section 1, same township. In Spencer Township, same county, W. B. Everbeck and others' No. 6 on the Jasper Purdy farm, mapped as the John Mockwart farm, in the southwest quarter of Section 6, pumped 3 bbls. Top of sand at 1,183 feet and drilled 60 feet in the sand. W. B. Jack is drilling a second well on the Elmer Wiklins farm, Section 13, same township, and about 1½ miles southeast of Spencerville. In Marion Township, Mack P. Colt is drilling No. 3 on the John Lucius farm, Section 10, and William Lang has abandoned Nos. 1, 11 and 15 James Ford farm, Section 2. In Jackson Township, Charles Geselchen and others abandoned No. 2 N. I. Cool farm, Section 6 and Nos. 4 and 5 J. T. Driver farm, Section 7. In America Township, the Ohio Oil Co. abandoned Nos. 1 and 2 Ephriam Miller farm, Section 8 and Nos. 1, 2 and 3 C. N. Stalter farm, Section 9.

Southwest of Bowling Green, in Section 35, Plain Township, Wood County, Eckler & Collin's No. 16 near the southwest corner of the M. Lamb farm, struck top of sand at 1,317 feet and salt water at 276 feet in the sand, with a showing of oil and may develop into an average producer when the water is lowered. In Liberty Township, Hulse & Kundtz's test in northwest corner of the E. E. and J H. Abbott farm, in the northeast quarter of Section 3, struck top of Trenton sand at 1,230 feet and drilled 283 feet in the sand to a total depth of 1,513 feet, showing but 1 bbl. the first 24 hours.

I. C. Robinson drilled a test 100 feet from the south line and 1,000 feet from the west line of the A. Sillin farm, in the southwest quarter of Section 10, Moulton Township, Auglaize County, and found a duster. Sand at 1,171 feet and drilled 69 feet in the sand. In Union Township, Tester and others are at work at a test on the J. Harrod farm, Section 3 and Campbell and others are drilling a test on the Ora Price farm, Section 32. In Jackson Township, the Crystal Oil Co. is putting down No. 4 well on the Joseph Woehrmeyer farm, Section 23. In Douchouquet Township, the Ohio Oil Co. abandoned No. 5 on the John Reichelderfer north farm, Section 33 and No. 5 on the Allen Spyker farm, Section 36.

The Ohio Oil Co.'s No. 7 in the southeast corner of the E. Snavekt farm, in the southwest quarter of Section 3, Center Township, Mercer County, in the Mendon Field, pumped 10 bbls. Top of sand at 1,124 feet and total depth 1,206 feet. Mack P. Colt is drilling No. 3 on the Mose Townsend farm, Section 10, same township. In Union Township, Mack P. Colt has abandoned Nos. 2, 4, 7, 9, 10, 11, 12, 13, 14, 15 and 16 Mary Hattery farm, and Nos. 2, 3, 7, 9, 13, 14 and 15 B. Nichols farm all in Section 11. J. E. Bailey is drilling No. 4 on the Joseph Wenning farm, Section 21, Butler Township. In Recovery Township, A. W. Neely and others No. 7, H. F. Stackler farm, Section 24, pumped 3 bbls, with top of sand at 1,135 feet and 48 feet in the sand. Sam W. Tate Jr., is drilling No. 4 Rose Fecher farm, same section. In Section 21, Liberty Township, Beatty & Hays are drilling No. 4 J. Ballenbacher farm.

In the Elmore Field, Harris Township, Ottawa County, Gust Magsig & Son's No. 12 Chas. F. Magsig farm, Section 23 pumped 15 bbls. Sand struck at 1,251 feet and total depth 1,296 feet.

In Cynthian Township, Shelby County, the Eilerman Oil Co. struck a 100,000 foot gas well at a test 700 feet from the north line and 250 from the west line of the F. Borchers farm, in the southeast quarter of Section 26. Sand at 1,220 feet and gas at 50 feet in the sand. The Wittmer Property Trustee is drilling No. 4 Joseph Siegel, Section 15. E. E. Laughner is doing the same at No. 4 Theresa Goffena farm, Section 34 and Lee A. Watson is drilling No. 3 Jennie Monnin farm, same section.

### Indiana

Only two completions are reported from the Indiana Field, one being dry and the second a 10-bbl. pumper. In the southwestern part of the State in the Princeton District there does not appear to be any great activity starting where some good wells have been completed in the past. Veale Township, Daviess County, appears to be ready for quite a lot of new work and both Pike and Gibson Counties will not be overlooked.

In Sullivan County, Turman Township, the Ohio Oil Co.'s second well 500 feet from the north line and 200 from the east line of the C. B. Patton farm, in the NE SE, Section 15, is a real duster at 838 feet. In Gill Township, same county, Fred Bays is drilling a test on the Sarah Vaughn farm, Section 26.

The Bement Oil Co. drilled a 10-bbl. pumper in No. 5 on the Claud Loveless farm, Section 14, Clay Township, Pike County.

Bell Bros. are planning for an active

(Continued on Page 88)

# WILDCAT MAKES 50 BBLS. FLUSH IN CLINTON COUNTY, KENTUCKY

By Whit
*Staff Correspondent, Kentucky-Tennessee*

WINCHESTER, Ky., July 5.—The sensation of the Kentucky-Tennessee Fields for the week was the bringing in of a 7,000,000-foot gas well on the Brit Wilson farm, 12 miles north of Glasgow, in Barren County, Kentucky. The gas was found below the Yellow Cap and not far from the town of Hiseville. This is the best gasser found in the western division for many a day. Another gas well reported close around 2,500,000 feet from Green County, while Floyd County, in the eastern division reports three gas producers ranging from 2,000,000 to 5,000,000 feet.

The best oil producer for the period was found on the J. Findlay farm, on Williams Prong, in the Sulphur Creek district of Cumberland County, which is reported at 100 bbls. showing in the First Sunnybrook formation at 462 feet. In Clinton County, adjoining Cumberland to the east and along the Kentucky-Tennessee line, a wildcat drilled on the Upchurch lease, is estimated at 50 bbls. flush and considered a very important find.

Two 25-bbl. wells were found in the Glasgow Field of Barren County, on the Bruton farm, in the Emery-Moore Pool, and No. 5 on the C. D. Boyd farm, in the Knob Road district. No. 6 well on the Guenther-Gant lease in the Owensboro Field of western Kentucky produced 35 bbls. In the South Weir Field of Johnson-Magoffin Counties, three good wells for that area are reported, No. 22 J. H. Arnett farm, and No. 2 John M. Adams farm, 30 bbls. each, while No. 8 H. H. May farm, good for 25 bbls.

The failure to find gushers like those reported during the previous week in the Hopewell Pool, along the north line of Cumberland County, makes a comparison of the flush for the two weeks look very bad, for the week in review, there being more than double the number of wells completed.

Work is gradually picking up in all divisions of Kentucky and the next few months should see the opening of numerous new producing areas as there is more or less talk of wildcatting which has been slow to start.

### Week's Work

A summary of the week's work in the Kentucky Field shows 58 completions, 38 producers with a flush of 484 bbls., 15 dry holes and 5 gas wells. Compared with the previous week, this is an increase of 32 completions, 16 producing wells, 12 dry holes and 4 gas wells, while the new production decreased 1,104 bbls. These wells were distributed by counties and districts as follows:

| | Comp. | Oil | Prod. | Dry | Gas |
|---|---|---|---|---|---|
| Johnson-Magoffin | 9 | 8 | 112 | 1 | 0 |
| Barren | 8 | 4 | 75 | 3 | 1 |
| Lawrence-Johnson | 6 | 6 | 36 | 0 | 0 |
| Wayne | 6 | 3 | 7 | 3 | 0 |
| Lee-Owsley | 5 | 3 | 23 | 2 | 0 |
| Estill | 5 | 3 | 23 | 2 | 0 |
| Warren | 4 | 2 | 8 | 2 | 0 |
| Floyd-Knott | 4 | 0 | 0 | 1 | 3 |
| Owensboro | 3 | 3 | 35 | 0 | 0 |
| Allen | 2 | 1 | 1 | 1 | 0 |
| Cumberland-Monroe | 1 | 1 | 100 | 0 | 0 |
| Clinton | 1 | 1 | 50 | 0 | 0 |
| Hopkins | 1 | 1 | 8 | 0 | 0 |
| Morgan-Johnson | 1 | 1 | 3 | 0 | 0 |
| Elliott | 1 | 1 | 3 | 0 | 0 |
| Green | 1 | 0 | 0 | 0 | 1 |
| Total | 58 | 38 | 484 | 1 | 5 |
| Last week | 26 | 22 | 1,588 | 3 | 1 |
| Difference | 32 | 16 | 1,104 | 12 | 4 |

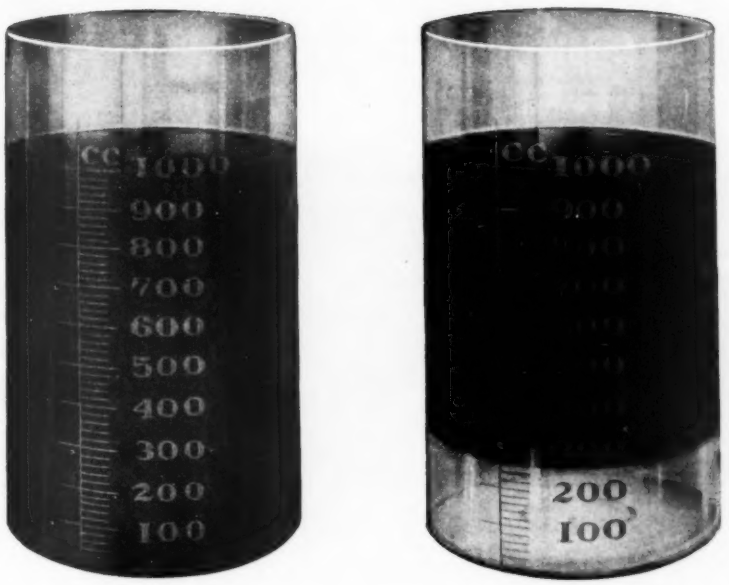
### Eastern Division

Development work makes a much better showing of late throughout the eastern division and a further increase is looked for by operators as many locations have been staked off in defined fields where locations were overlooked in the past and attempts will be made to find extensions to the pools or open up new ones.

Development work is working westward

(Continued on Page 84)

# SIMPLICITY ITSELF

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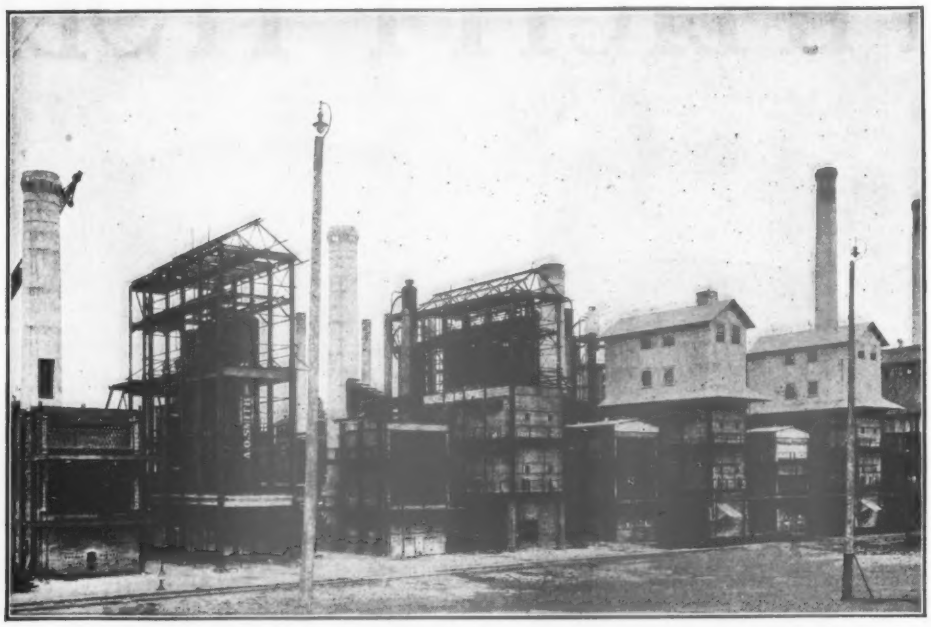

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# West Virginia Well Makes 415 Barrels

## Near Gusher in Big Injun Sand Ritchie County. Marshall County Follows With 295-Bbl. Well From Gordon Sand

By D. S. Wakenight
*Staff Correspondent, Eastern Fields*

PITTSBURGH, Pa., July 5.—The features of the week of development work in the eastern fields were the completion of a near gusher and a good producer in the West Virginia fields and several fair producers in the deep sand territory in southeastern Ohio. The near gusher is the South Penn Oil Co.'s No. 4 on the Clyde Atkinson farm on Meadow Run of Goose Creek, Grant district, Ritchie County. The first 24 hours after it was drilled into the Big Injun sand the well produced 415 bbls. and is the best producer completed in West Virginia in a great many months. The location is in defined territory.

In Liberty district, the Waynesburg Gas Co. got a producer at a test on the Alfred McCluskey farm when it drilled it into the Gordon pay that placed 295 bbls. to its credit the first 24 hours. This is the best producer Marshall County has presented this year.

**Southeastern Ohio**

There were only a few good wells completed during the week. In the northeast quarter of Section 5, Ward Township, Hocking County, the Murray City Oil & Gas Co. got a 70-bbl. producer in the Clinton sand at No. 8 on the Ackers heirs' farm.

In the northwest quarter of Section 15, Perry Township, Coshocton County, the Murphy Oil Co. and others got a 70-bbl. producer in the Clinton sand when they completed and shot a second test on the Wheeler Mossholder farm. In Section 18, Pike Township, the Leonard Oil & Gas Co. got a 65-bbl. producer when it completed and shot No. 3 on the Nancy Norris farm. In Section 2, Washington Township, Hocking County, the Ohio Fuel Supply Co.'s second test on the Carl C. Harden farm is good for 45 bbls. a day.

**West Virginia**

On Sandy Creek, Reedy district, Roane County, the Heck Oil Co. has completed and shot in the Berea grit No. 5 on the O. J. Brown farm. It is 4,000 feet south of No. 4 on the same farm and good for 8 bbls. a day.

In Henry district, Clay County, the South Penn Oil Co. has completed in the Big Injun sand No. 20 on the O. D. Stockly farm and good for 30 bbls. a day. The location is 5,000 feet northeast of No. 11. On Hughes River, Murphy district, Ritchie County, the Cain Run Oil & Gas Co. has the rig completed for another test on the K. Prunty farm.

In Scott district, Boone County, the Owens Bottle & Machine Co. has completed in the Berea grit No. 10 on the Cassing & Co. property. It is a light gasser. In Sherman district, same county, Cameron and others have completed in the same formation a test on the Betty L. Wilson farm. It is a duster in all sands.

In Courthouse district, Lewis County, Roy V. Horner has completed a second test on the Mary V. Horner farm dry in the Big Injun sand. In Troy district, Gilmer County, the Ohio Fuel Oil Co.'s second test on the J. E. S. Smith farm is good for 10 barrels a day in the same formation.

In Union district, Ritchie County, the Hope Natural Gas Co.'s test on the W. B. Hodges farm is a gasser in the Big Injun sand.

**Lincoln County**

In Union district, Lincoln County, Roy & McComas have a gasser in the Berea grit at a test on the Silas Randolph farm. In Carroll district, the Maul Rock Oil & Gas Co.'s test on the J. N. Lucas farm is a gasser in the same formation. In Jefferson district, the Downing Gas Co.'s test on the Horse Creek Land & Mining Co.'s tract is a Berea grit gasser.

On Fink Creek, Freeman's Creek district, Lewis County, the Philadelphia company has completed in the Gordon sand a second test on the L. C. Waugh farm. It is a light gasser at a total depth of 2,615 feet. In Clay district, Wood County, the Big Sand Oil Co. drilled its test on the S. L. A. Anderson farm through the Berea grit. It is a light gasser.

**Dusters in Putnam County**

On Spring Branch, Scott district, Putnam County, 1 mile northeast of production, the Teays Producing Co. has completed a test on the P. S. Eggleston farm dry. On Poplar Fork, same district, the same company had the same luck at a test on the G. W. Joyce farm. On Rocky Step Creek, same district, Kirtley & Keller have completed the rig for a test on the Jennie Jones farm, 2 miles northeast of their test on the J. S. Frazier farm. On Fudge Creek, Grant district, Cabell County, the Aetna Oil & Gas Co. has started to drill a test on the P. H. Reynolds farm.

**Doddridge County**

In Central district, Doddridge County, the Carnegie Natural Gas Co.'s No. 10 on the Agnes A. Carder farm is good for 5 or 6 bbls. a day in the Big Injun sand. In the same district, Nay & Kintzer have a gasser in the same formation at a second test on the Radabaugh farm.

In Skin Creek district, Lewis County, C. M. McCall & Co. have a light gasser in the Gantz sand at a second test on the Dora Linger farm. In the same district, the Carnegie Natural Gas Co. has the rig completed for a second test on the Georgia Wells farm. The Pittsburgh & West Virginia Gas Co. has a rig up on the Robert G. Brinkey farm. The Mud Lick Oil & Gas Co. has a rig up on the E. G. Davisson farm. In Collins Settlement district, E. G. Smith and others have a rig up on the Samuel R. Smith farm. In Courthouse district, the Union Gas Co. has a rig up on the C. S. Heavner farm. In Banks district, Upshur County, the Edgell Oil & Gas Co. has a rig up for a test on the C. Willfong farm.

**Wood County**

The South Penn Oil Co. has completed No. 13 on the Elvira Richardson farm, on Laurel Creek, Union district, Wood County, West Virginia, and it will make a 5-bbl. pumper in the Maxon sand. In the same district, the Pinnacle Oil & Gas Co.'s test on the A. F. Stagg farm is the same kind of a pumper in the same formation.

In Grant district, Pleasants County, the Dividend Oil & Gas Co. has completed a test on the Graham farm good for 10 bbls. a day in the Big Injun sand. In McKim district, the Walnut Run Oil Co. has drilled a test on the W. L. Treadway farm through the Squaw sand. It is a duster.

In Walker district, Wood County, the South Penn Oil Co.'s No. 19 on the Susan Grant farm is good for 10 bbls. a day in the Berea grit.

On Laurel Creek, Union district, the same company has the rig completed for No. 4 on the J. H. Warton farm. In Burning Springs district, Wirt County, Roberts Brothers have completed No. 145 on the Rathbone Oil Tract good for 2 bbls. a day in the 500-foot sand.

**Boone County Gassers**

In Washington and Crook districts, Boone County, the Owens Bottle & Machine Co. has completed No. 4 on the Little Coal & Land Co.'s property, good for 596,000 feet. In Crook district, the same company completed No. 10 on the T. C. Bedford farm. In the same district, No. 28 on the Coal River Mining Co.'s property is good for 1,000,000 feet. No. 6 on the Bull Creek Coal & Land Co.'s property is a fair gasser. In Washington district the same company has a gasser at a test on the Mary Miller farm.

**Kanawha County**

In Cabin Creek district, Kanawha County, the United Fuel Gas Co.'s test on the Robson-Prichard tract is a fair gasser. In the same district, and on a part of the same tract, Roy & McComas have a gasser at No. 3. In the same district, the United Fuel Gas Co.'s test on the W. M. Gibson farm is a fair gasser.

**Calhoun County**

In Sherman district, Calhoun County, the Hope Natural Gas Co. has completed in the Big Injun sand a test on the Frederick Stump farm. It is a fair gasser. In the same district, the same company got a fair gasser in the same formation at a test on the Mary Blake farm. On Rock Camp Run, C. W. McCall and others have now drilled a second test on the W. W. Wright farm through the Big Injun sand and dry.

In Ten Mile district, Harrison County, the Continental Oil Co.'s second test on the A. A. Williams farm is a good gasser in the Gordon sand. This location is on Ten Mile Creek. On Green Creek, Harper district, Roane County, the South Penn Oil Co. has completed a test on the Angeline Nichols farm. It is a light gasser in the Big Injun sand.

**Starting and Drilling Tests**

In Union district, Clay County, the Empire Petroleum Co. has started to drill a second test on the Charles Osborne farm. In the same district, the Eastern Carbon Black Co. has started to drill a second test on the Bratton Samples farm. In Birch district, Braxton County, the Pittsburgh & West Virginia Gas Co. is rigging up on the Sarah Dobbins farm. The Ohio Fuel Oil Co. is drilling and due in the sand at a test on the E. W. Miller farm. In Otter district the Mill Fork Oil & Gas Co. is hauling tools to a location on the Bennett heirs' farm.

In Henery district, Clay County, the South Penn Oil Co. has completed No. 4 on the Joseph Belcher farm good for 15 bbls' a day. It is 560 feet south of No. 5 on the same farm, which came in a 25-bbl. producer.

On Dutchman Run, Murphy district, Ritchie County, W. H. Hays has completed a test on the Levi Wilson farm. It is a small gasser in the salt sand. On Bear Run, same district, the Hope Nat-

(Continued on Page 78)

## SAGINAW'S MOST NORTHERLY TEST NOT MAKING FAVORABLE SHOWING

By Whit

SAGINAW, Mich., July 3.—New drilling outfits are coming into the Saginaw Field almost daily and leasing still goes on in all directions from production. The producing area proper covers about a mile square and it depends upon present wells drilling whether or not an extension can be found. Up to the time of the writing of this article, the most northerly test in the field which is the Bliss Petroleum Co.'s test along the west line of the Carl Boldebuck 160 acres, Section 2, Saginaw Township, and close to 2 miles north of the discovery well of the pool and about 1½ miles north of the Sun Oil Co.'s two producing wells on the Weiss and Nuerminger farms, does not make any too good a showing but may yet drop into the producing line. The top of the Berea sand was found at 1,883 feet and the first traces of oil was found at 13 feet in or at a total depth of 1,896 feet, where the drill stopped. This indicates that the Berea formation dips quite heavily to the north which is not very encouraging to say the least, but sometimes a dip means nothing. A shot may change the outlook and if not there are still known oil-bearing formations below that can be tried out.

**State Geologist Talks**

"Oil exploration here tapped only a small part of the territory in the vicinity of Saginaw that is sufficiently promising to make drilling worth while," Dr. Richard A. Smith, State geologist of Michigan, declared to the Saginaw News-Courier, while on a trip of inspection of the Saginaw Field during which he paid particular attention to the Bliss Petroleum Co.'s Boldebuck well.

"Not only that but there are at least four strata deeper than the Berea in which the present oil is found that might repay drilling tests," he said, "besides a fifth, lower, that might contain oil, but is so far down that drilling costs would be excessively high and the chances of success small compared with the cost of the wells."

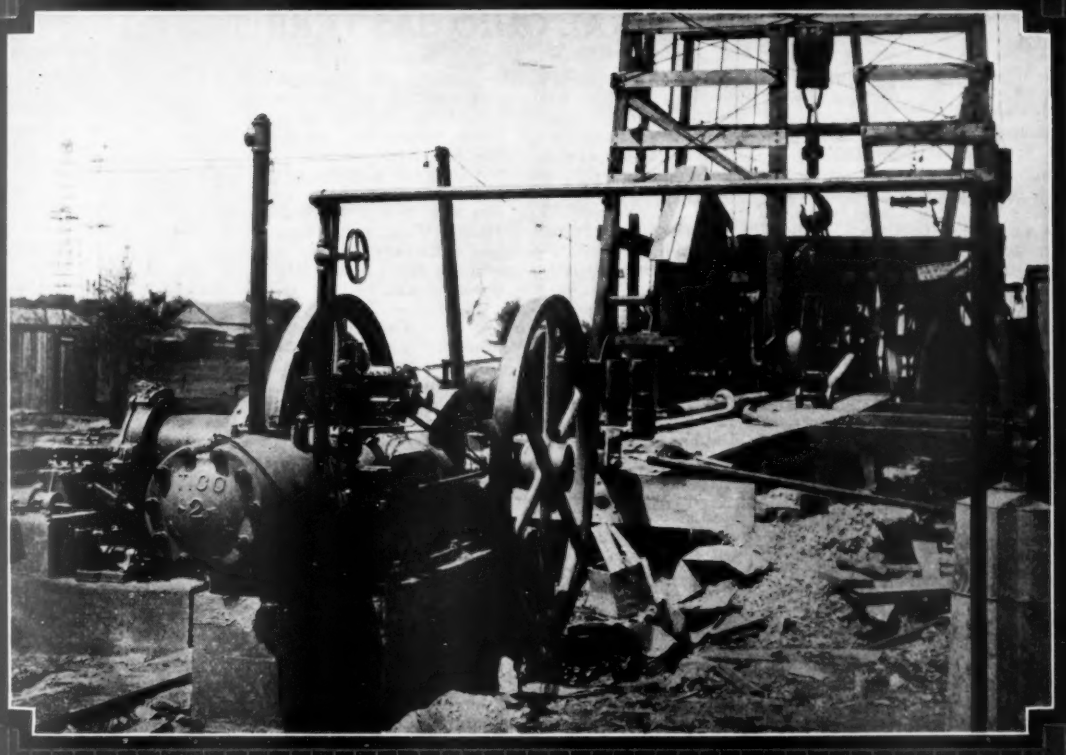
Doctor Smith outlined three localities as apparently offering favorable indications, though he pointed out that his judgment is based chiefly on evidence that is far from conclusive, and can be confirmed only by drilling tests. One stretches southeast from Saginaw to Lake St. Clair, another is in the vicinity of St. Charles and Cheasaning, while the third is in the vicinity of Kawkawlin, along the shores of Saginaw Bay to the north. Indications do not favor the chances of oil being found very far west, he said.

"The field looks very good," he said. "Perhaps it will be nothing spectacular, but the edge has not yet been found, and much more drilling is needed.

"There are a number of locations, besides that already producing, that I believe might repay tests. One is near Kawkawlin. The structures there seem too high to be normal, and have possibilities. The entire territory from Saginaw east to Lake St. Clair seems worthy of the attention of the drill, while around St. Charles and Chesaning it seems there may be a different structure worth exploring, though there is no other way of telling whether it contains oil. Between Saginaw and St. Charles it would appear there is an unproductive territory, the formations dipping there, but there is no way of telling its extent except to drill.

"Southeast of Saginaw, there is an anticline that we think should be explored. I would start at Saginaw and work southeast. There is a broad anticline showing on the banks of Lake St. Clair, though the Berea comes to the surface in Macomb County, therefore being

(Continued on page 76)



# TICO GAS ENGINE

## MORE EFFICIENT THAN STEAM

The photograph shows a TICO Gas Engine being set for drilling in, swabbing and pumping, on Sinclair North Walker 39, Garber Field.

Production men on this lease added their testimony to that of a host of other satisfied TICO users. They stated that the TICO is a wonderful engine for drilling, swabbing, pulling casing and every other production use. Bearing out these statements is the fact that Sinclair has installed 75 Ticos in the Garber Field alone, since January 1st. This is the deepest field east of the Rockies. Write us for other users in Garber, Tonkawa, and other deep fields.

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# CONTINENTAL

# Natural Gas Developments

## MAKING CARBON BLACK VERY SIMPLE PROCESS

In the course of an article on the carbon black industry, in the Monroe gas field in Louisiana, James H. Dameron describes the very simple process of manufacture of that valuable commodity as follows:

The product is light in weight and fluffy. Its color is jet black before it leaves the channel iron on which it is collected. But by rubbing on the hands or between fingers it turns to a glossy black and only after considerable effort with soap can it be removed from the skin.

The carbon burning houses are 110 feet by 30 feet and about 12 feet high. They are erected in long rows side by side. Where the company's operations are large the houses are built in long double rows and end to end. Thousands of 5 to 10-foot an hour ordinary gas jets are burning in the houses and the flame is an easy burning and reddish brown flame licking against the slow moving channel iron which collects the carbon.

Before the gas reaches the jets in the burning houses it goes through a regulator and its pressure is cut down. The main lines bring the gas to the burning houses at well pressure and as it passes through the regulators it is reduced to 8 to 10 ounce pressure.

As the gas burns slowly against the channel iron the grimy product collects on the channel and is automatically scraped off into conveyors as the iron is slowly worked backward and forward. Regulating the movement of the channel iron is one of the most delicate of the tasks connected with manufacture of carbon black. The movement must be regulated so as to draw whatever carbon is collected on it away from the reach of the flames just at the time it is burned to a black tone. Otherwise the carbon will be burned too long and have a brown color and will be an inferior product.

The channel irons are moved by a worm drive shaft running behind the burning houses. The regulation is governed by the speed of a power engine driving the shaft. So slow is the movement of the channel iron is that it cannot be observed except upon close observation After the black is scraped from the channel iron the conveyors carry it to the packing house a short distance away. There it first goes through a cleaning process to rid it of all foreign substance. As the black goes into holders in which there are a series of fine screens, such foreign substances as rust and dirt are removed and dropped in the bottom of the holders.

**Surrounded by Soot**

From there it goes to the packing machines and is packed in 12½-pound paper bags. Each bag is loaded almost to capacity by the machines and the operators weigh each bag and bring it to its required weight. The bags are carried to the hydraulic compressing rooms where each sack is shaped uniformly and packed in another paper container to make future handling clean and give it added protection in shipping. From there the bags are taken to the shipping rooms or warehouses.

Little skilled labor is required in the manufacture of carbon black. Plant superintendents care for the regulation of the channel iron movements and see that the irons are kept moving with the required speed. Day laborers care for most of the other work. Some of the companies have technical men in their employ carrying on research work and seeking manufacturing improvements.

Working in a dusty and hot coal mine is a white collar job in comparisan to working in a carbon plant. Flying in the air, the fluffy black product, even lighter than flour, clings to every object which it comes in contact with. Five minutes after workmen in the packing and compressing rooms come in contact with the carbon they are literally covered with a black coat. And as the day wears on and the black imbeds itself deeper in their clothes and skin, the blacker and more glossier the workmen get.

Passing hurriedly by the doors of the packing rooms apparently could be accomplished without being smutted. A look into the mirror after such a trip would show no visible signs of having passed through a soot cloud. But by resorting to the infallible trick of hard-boiled army officers inspecting rifles with white cotton gloves or handkerchiefs, one cannot pass inspection. After rubbing the handkerchief lightly over the face it is streaked with smutty black splotches of carbon. And the more vigorous the rub the blacker the handkerchief.

Shower bathrooms and lockers are provided near the plants for the workmen. At each shower there is an abundant supply of soap and plenty of warm water. After finishing the day's work workmen have another task ahead of them in removing the black from their bodies.

## MANY NEW LOCATIONS AND WELLS IN CENTRAL OHIO GAS TERRITORY

FINDLAY, Ohio, July 5.—In Ashland County, Green Township, the Ohio Fuel Gas Co.'s test, 760 feet from the south and west lines of the Godlieb Koch farm of 160 acres, Section 34, is an average gas producer. The Logan Gas Co. has made a location for a test in the northwest corner of the J. C. Walters 160 acres, Section 28. In Orange Township, the same company is drilling No. 2 Fred Shaum farm, Section 3, and No. 1 on the Mrs. Jennie Murray farm, Section 5. The Ohio Fuel Gas Co. staked a location for a test in the northwest corner of the J. Henry Bushman 219 acres, Section 2. In Sullivan Township, the Klise-Eckstein-McCann Co. made a location for No. 3 in the southeast corner of the J. A. Spencer 34 acres, Lot 3. The Logan Gas Co. made a location for a test in the northeast corner of the John J. Smith farm, Lot 81, and for No. 1 near the northwest corner of the Lee and Gladys Burkhart 102 acres, Lot 80.

In Medina County, Litchfield Township, the Globe Oil Co. has a location for a test on the George Kennedy farm, Lot 55. In Lafayette Township, the Ohio Fuel Gas Co. drilled in a very nice gas well at a test in the northwest corner of the R. O. Wheeler farm, Section 36. The Logan Gas Co. made a location for a test on the Ellsworth Breyley farm of 78 acres, Section 4, Spencer Township, same county.

The Empire Gas & Fuel Co. brought in a dry hole in a test in the northwest corner of the S. A. Ives 57 acres, Lot 93, Columbia Township, Lorain County, and made a location for a test in the northwest corner of the M. and B. Francis 110 acres, Lot 7.

In Greene Township, Wayne County, the Logan Gas Co.'s test in the northwest corner of the A. J. Shissler 100 acres, Section 6, is a dry hole. In Congress Township, the same company hit a very good gas well at a second test near the northwest corner of the O. Frank 160 acres, Section 36, and is starting No. 3, 375 feet from the north line and 1,465 feet from the west line of the O. E. Frank 160 acres. In Cannan Township, Butler Brothers' Nos. 2 and 3 gas wells, on the Daniel Wiles farm, Section 21, former gas wells, were drilled from the Stray sand to the Clinton sand and are producing 2 and 10 bbls. respectively.

In Monroe Township, Holmes County, the Ohio Fuel Gas Co. drilled a 5-bbl. producer in No. 1 on the Lizzie Rumbacher, Lot 16, in the northeast corner of the 79 acres.

In Chartiers Township, Athens County, the Logan Gas Co.'s No. 1, on the Eaton Chase 140 acres, Section 3, was a duster in the Big Injun sand. Same company's No. 1, on the northeast corner of the J. B. Niggemeyer 156 acres, Section 33, same township, was dry in the second Cow Run sand, but good for 1 bbl. in the Berea at 738 feet. Hawkins and others are drilling No. 1 on the John Zumbaugh 200 acres, Section 36, and E. A. Sweeney and others are working at No. 2 in the southwest corner of the Margurette Rowan 123 acres, Section 6.

In the Cleveland Field, in Dover Township, Cuyahoga County, Hulse & Kundtz drilled in a nice gas well at a test in the southeast corner of the Nellie E. Hodge 20 acres, Lot 27, the gas being found in the Newburg sand. Mulford Portmann made an excellent gas strike at a test on the W. H. Reeves farm, Lot 28, and Daugherty Brothers' No. 1, in the northwest corner of the J. Gessner 20 acres, Lot 28, is rated close to 2,500,000 feet. The Logan Gas Co. made a location for a test on the W. E. Elliott 8 acres, Lot 17, and in the northeast corner of the small tract.

## NEW GAS FUEL FOUND FOR AIRSHIP POWER?

A newly discovered gas, according to a New York Times dispatch from Berlin, will be used for fuel instead of gasoline in Germany's super-Zeppelin, now under construction at Friederichsnafen under the direction of Dr. Hugo Eckener. Not only will this gas be a great step in making flying safer, but it will enable longer flights and at higher speed.

The discovery, which was made by Doctor Lempertz, a chemist on the staff at the Zeppelin works, has been thoroughly tested in Maybach motors similar to those on the Los Angeles. Only a slight alteration in motors is necessary to fit them for using the new fuel.

One cubic meter of the new gas develops 25 per cent more power than a kilogram of gasoline, according to tests and it is less expensive, since by doing away with the weight of gasoline and tanks and by keeping the ship always at the same weight, it is unnecessary to blow off large quantities of hydrogen in order to compensate for the loss of weight through fuel consumption. Since compensation for loss of weight is unnecessary when using the new gas it will increase the average speed of the ship, and since hydrogen gas cells do not need frequent filling it will permit landings to be made anywhere.

With the changed construction of the Zelleplin it will be possible to carry double the amount of fuel in gas form than could be taken in gasoline. Since there is no waste in inflating gas it would make the use of helium practical from a financial standpoint.

The new airship is designed to contain 1,005 cubic meters, which is 50 per cent more than the Los Angeles. It will be longer but less in circumference. It will be completed by the autumn of 1927.

The money for this craft was raised from popular subscription and it is to be used for polar and other expeditions.

## CONSTRUCTION PROGRAM OF EMPIRE COMPANIES

The natural gas division of the Empire Companies completed the first step of a $1,500,000 construction program for the present summer and fall when it put into service June 7 the Drumright-Davenport-Depew pipeline extension. This improvement included a 16-inch Dresser coupled line 21 miles long extending south from the Drumright compressor station. Branching off from this extension into the Davenport Field in Lincoln County, Oklahoma, is 9 miles of 10-inch coupled line and 4 miles of 8-inch welded line east into the Depew Field in Creek County, Oklahoma, making a total of 34 miles of construction. This extension taps the natural gas in Creek and Lincoln Counties and will, it is said, give the Empire Companies additional daily capacity of approximately 30,000,000 feet. The improvement costs approximately $500,000.

The Drumright compressor station is to be enlarged this summer and additional units installed to handle the gas supply to be connected through this new 34-mile extension as well as gas from the Deep Rock-Mehan Field west of Cushing. Extensive improvements are under way at the Petrolia compressor station on the Kansas Natural system. This improvement will cost approximately $250,000. Gathering stations in the Craig Field in Johnson County, Kansas, and in Creek County, Oklahoma, as well as extensions of the main transportation lines to take care of new mining customers in the Joplin and Miami lead and zinc fields, are planned for this year. H. L. Montgomery, Bartlesville manager of the natural gas division of the Empire Companies, is quoted as stating that his company will expend every dollar reasonably possible in enlargement of its system and its carrying capacity in preparation for next winter's business. During the past five years, he stated, the company has expended over $7,000,000 in main line extensions and improvements.

## MODEL HOMES TO SHOW GAS APPLIANCE USE

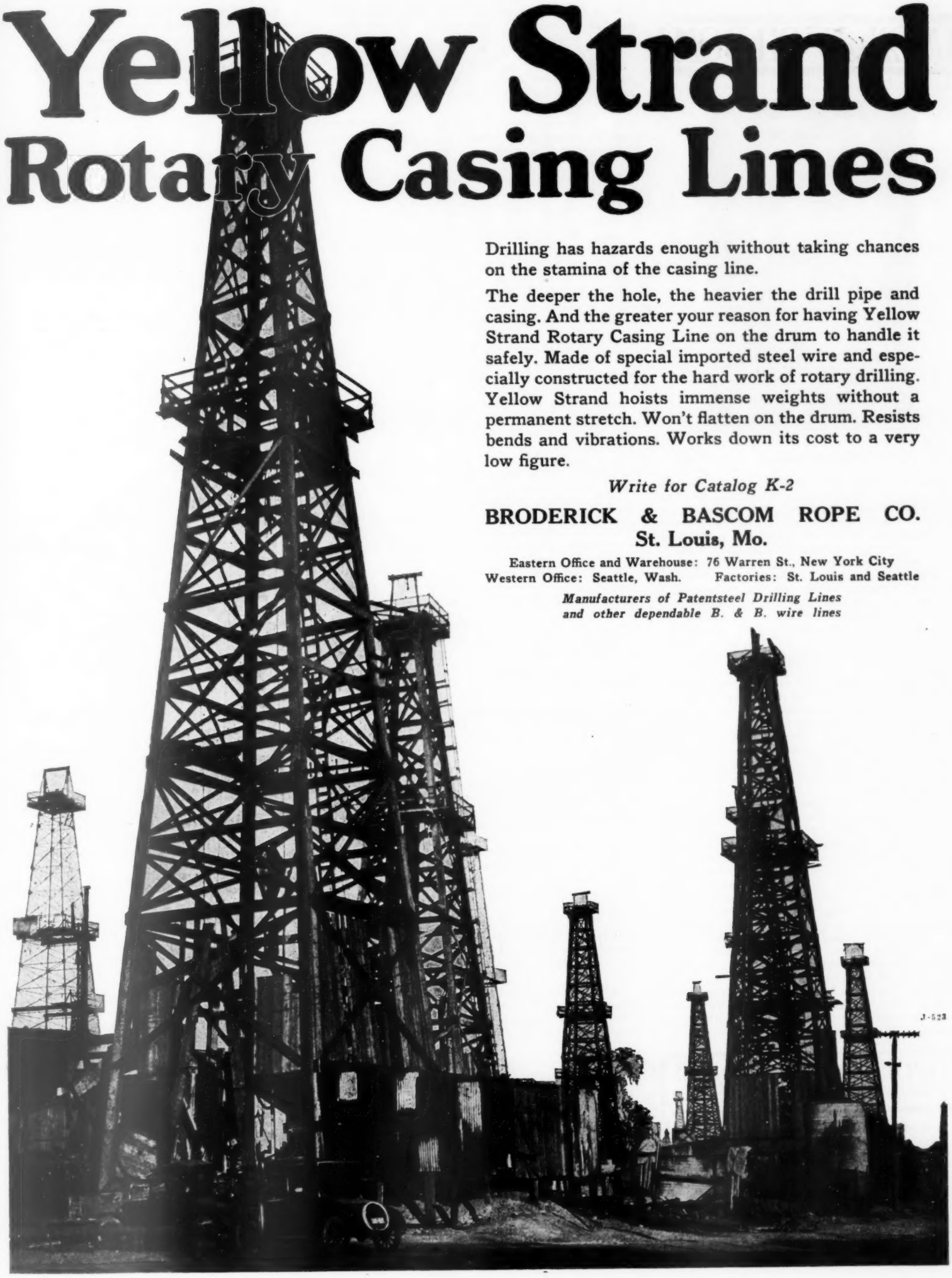
Thirty-six model homes equipped fully with gas appliances will be built in 28 cities of the United States this summer. More than 25 organizations and manufacturers will aid in building and equipping the houses.

Construction of the homes is part of a plan to popularize the use of gas. In addition to gas stoves, water heaters, radiant warmers and incinerators, the homes will be equipped with gas-fired furnaces for general heating. Three hundred gas companies in the United States have put in force rates for the use of gas in domestic heating which is expected to increase use of the fuel. Several New York State communities have special furnace rates, among them Utica, Schenectady, Albany, Rochester, Newburgh, Poughkeepsie and Kingston.

New York City will have three of the model houses, Boston two and Philadelphia two. Other cities where they will be built are Baltimore, Washington, Atlanta, Buffalo, Pittsburgh, Detroit, Louisville, Memphis, Cleveland, New Orleans, Houston, Chicago, St. Louis, Fort Worth, Minneapolis, Des Moines, Omaha, Kansas City, Denver, Salt Lake City, Seattle, Portland, San Francisco and Los Angeles.

This move by public utilities and industrials to popularize the use of gas follows declarations by spokesmen for the gas industry that the industry should increase the sale of appliances which operate through the consumption of gas. Sale of current-consuming appliances has been brought to a high point in the electrical power industry.

# Yellow Strand Rotary Casing Lines



Drilling has hazards enough without taking chances on the stamina of the casing line.

The deeper the hole, the heavier the drill pipe and casing. And the greater your reason for having Yellow Strand Rotary Casing Line on the drum to handle it safely. Made of special imported steel wire and especially constructed for the hard work of rotary drilling. Yellow Strand hoists immense weights without a permanent stretch. Won't flatten on the drum. Resists bends and vibrations. Works down its cost to a very low figure.

*Write for Catalog K-2*

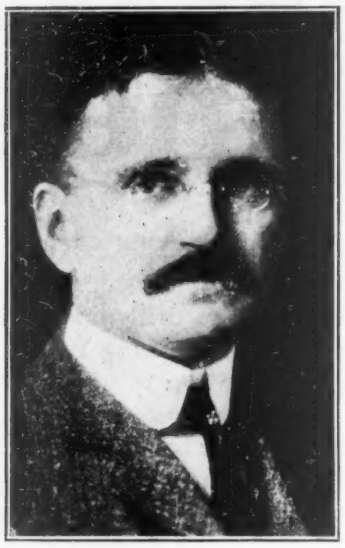
**BRODERICK & BASCOM ROPE CO.**
**St. Louis, Mo.**

Eastern Office and Warehouse: 76 Warren St., New York City
Western Office: Seattle, Wash. Factories: St. Louis and Seattle

***Manufacturers of Patentsteel Drilling Lines and other dependable B. & B. wire lines***

J-523

# MEN KNOWN IN OILDOM



**Allan C. Balch**

Allan C. Balch, vice president of the Midway Gas Company, and occupying a similar position with the Southern California Gas Company, has had a very active career and while he has devoted most of his time to the development of public utilities he has played a large part in the growth of the petroleum industry in California. A sketch of Mr. Balch's career reads like fiction. He first saw the light of day at Valley Falls, N. Y., on March 13, 1864. He graduated from Cornell University in 1899 with degrees in mechanical engineering and electrical engineering. Following his graduation, Mr. Balch went to Seattle and became a member of Baker, Balch and Company, civil and mechanical engineers.

Mr. Balch's greatest piece of work was probably the development of the Big Creek hydro electric project in the High Sierras on which the Southern California Edison Company has been working for the past several years. This project, which required a 15-mile tunnel much of which was through solid granite, has not yet been completed, but will when finished, be the greatest undertaking of its kind in the world.

Mr. Balch was instrumental in organizing and is a large stockholder in the Southern California Gas Company and the Midway Gas Company. The latter concern, under his direction, laid a gas line from Taft to Los Angeles in 1911, and this company has since been supplying other southern California communities with natural gas from the San Joaquin Valley and more recently from the Ventura Avenue Field. He is also a large stockholder of the Western Power Corporation, a holding company for the San Joaquin Light & Power Corporation and the Midlands Counties Public Service Corporation which furnishes power and light to California Coast cities lying south of King City and north of Santa Barbara. He directed a large part of the installations made by these concerns and the Fresno Water Company which supplies domestic water to the city of Fresno.

# PERSONAL PARAGRAPHS

Thompson Brothers of Newark, Ohio, are now in the Saginaw Field getting contract work.

* * *

Theodore J. Fitch of the Magnolia Petroleum Company, Dallas, Tex., was a Fort Worth visitor last week.

* * *

M. C. and M. W. Hagan, oil producers and drilling contractors of Ashland, in the Central Ohio Field, are in the Saginaw Field of Michigan, looking for acreage to develop.

W. P. Armstrong, of the Texas Pipe Line Company of Houston, Tex., was in San Antonio, Tex., over the week-end.

* * *

Early Deane is back from a stay in Hollywood, Calif. He drove through and stopped off at San Antonio, Tex., en route to El Dorado, Ark.

* * *

H. C. Bretchneider, an official of the Midwest Refining Company of Denver, Colo., was a Tulsa, Okla., visitor last week.

* * *

W. H. Gaither, district manager for the National Transit Pump & Machine Company, Houston, Tex. headquarters, is in Shreveport, La.

* * *

Frank F. Hill, general field superintendent of the Union Oil Company, has returned to Los Angeles, Calif., from a trip to Denver, Colo.

* * *

C. F. Truby, a former Oil City boy, is now located in Houston, Tex., with the Gulf Refining Company in the auditing department.

* * *

G. A. Tompson, purchaser for the Empire Companies, is making a tour of the districts in which the Empire organization has properties.

* * *

Luke Gilliam, of Tampico, Mexico, is in San Antonio, Tex., for a stay of a few weeks. He expects to continue to operate in Old Mexico.

* * *

J. R. Mace of Winchester, Ky., has been in the San Antonio, Tex., district looking over the various fields and contemplating getting interested.

* * *

A. P. Anderson, of the Anderson Well Shooting Company, underwent a minor surgical operation in Bakersfield, Calif., and is on the road to recovery.

* * *

J. H. Considine and James Connolly, of the Petroleum Iron Works, Sharon, Pa., are making a swing through the Texas, Louisiana and Arkansas fields.

* * *

William J. (Bill) Hayes, western representative for the Ohio Steel Castings Company, Springfield, Ohio, has been appointed general sales manager of that company.

* * *

D. J. Moran, vice president of The Texas Company and manager of the production department, has returned to his Houston, Tex., headquarters from New York.

* * *

M. H. Shanahan, assistant general production superintendent of the Continental Oil Company, has been in San Antonio, Tex., where the company is doing some wildcatting.

* * *

Harry F. Wright, consulting geologist, who was formerly with the Nowata Oil & Refining Company, has been made chief geologist for the Savoy Oil Company of Tulsa, Okla.

* * *

H. E. Hamilton, former sales manager for the Oil Well Supply Company at Casper, Wyo., and now traveling auditor for that firm, has been in Casper for a few days looking over conditions.

* * *

Chief Engineer Masten, of the Pacific Gasoline Company, has just returned to Los Angeles, Calif., after making a general inspection trip of the company's plants in the San Joaquin Valley.

* * *

F. T. Jones, formerly superintendent of production for the Dixie Oil Company at Wewoka, Okla., has gone to Tampico, Mexico, to occupy a similar position with the Huasteca Petroleum Company.

* * *

L. S. Conover, formerly with the Union Oil Company of California, has been made Mid-Continent manager of the Sargent Engineering Company of Los Angeles, Calif., and has arrived at the Tulsa office.

* * *

E. H. Triphaus of the Taylor Instrument Company's Tulsa office, was in Fort Worth, Tex., recently on a trip through northern and western Texas oil districts. He went to San Angelo from Fort Worth.

J. A. Vickers, of Wichita, Kans., president of the Vickers Petroleum Company, is in Colorado Springs, Colo., where he will spend the summer.

* * *

C. C. Bergherm, Chicago, Ill., is looking over the new field at Saginaw, Mich., where he will join W. D. Bergherm in the drilling of a well on the Winters farm, just east a short distance from the discovery well.

* * *

J. M. Hayner, of Tulsa, Okla., president of the Monarch Royalties Company, will spend much of this year in the southwest Texas fields, with headquarters at San Antonio, Tex., and occasional visits to the Panhandle fields.

* * *

Lew D. Hilton, Mid-Continent manager of the Regan Sales Company of California, is back in Tulsa, Okla., after an absence in the field. The offices of the Regan Company have been removed to 227 Mayo Building.

* * *

Charles Brandt, a well known and old-time operator and contractor in the Trenton Rock fields of Ohio and Indiana, and a resident of Indianapolis, Ind., is looking over the Saginaw, Michigan Field, and will do some operating for himself.

* * *

Henry Housze, of Tampico, Mexico, came up by boat to Houston, Tex., on a business mission. Mr. Housze has been engaged in doing construction work in Mexico for American oil companies for the past 18 years, and he has a wide acquaintance among officials of oil companies.

* * *

C. E. Templeton, of the Union Oil Company, has just returned from South America where he has been doing a considerable amount of geological work for the company. Mr. Templeton will remain in Los Angeles, Calif., for about three weeks before returning to Colombia and Venezuela.

* * *

S. F. Shaw, of San Antonio, Tex., is at Tonkawa, Okla., designing air lifts for the Comar Oil Company. Mr. Shaw reports that notable increases in production have been obtained at several wells. Reid W. Bond, petroleum engineer with the Roxana Petroleum Corporation, is assisting Mr. Shaw in introducing the air lift installations.

* * *

J. A. Egan, formerly with the Carter Oil Company at Tulsa, Okla., has accepted the position of geologist for the Ramsey-Maxey Oil Company of San Antonio, Tex., a new company organized a few months ago by W. R. Ramsey of Oklahoma City, Okla., and J. H. Maxey, formerly of the Gilliland Oil Company. The new company is operating exclusively in Texas.

* * *

John D. Rockefeller, Jr., has been in Los Angeles, Calif., stopping off en route to visit Henry E. Huntington at Pasadena. Mr. Rockefeller was intensely interested in Mr. Huntington's famous library at his palatial home at San Marino. Mr. Rockefeller, accompanied by his family including Mrs. Rockefeller and their three children David, Winthrop and Lawrence, spent a few days in Monterey before resuming their pleasure jaunt.

* * *

R. E. Burt, a prominent producer in the Coastal pools for many years, now a resident of Dallas, Tex., is spending some time in the Coastal area where he still has interests. Mr. Burt and Dr. P. S. Griffith, of Houston, Tex., were associated for many years under the firm name of Burt & Griffith. They owned the fee to the famous Stevenson lease in the deep sand section of the Humble Pool. Doctor Griffith was one of the first operators in Texas to employ scientific apparatus as an aid to locating domes.

* * *

A party of West Virginians visited the Big Horn Basin, Wyoming, recently. They were the pioneers who started much of the oil development in Grass Creek and Greybull and were in the basin to settle some old legal tangles relative to the Big Horn Oil & Company's transfer to the new organization, the Greybull Oil Company. The party consisted of E. A. Durham, A. C. Jackson, Charles N. Kimbal, Paul W. Neuenschwander of Sistersville, W. Va.; Capt. M. G. Sperry and George F. Hoffmeir of Clarksburg, W. Va.; Ben D. Keller of Charleston; J. Bernard Handlan of Wheeling and M. H. Willis of New Martinsville.

# When we say that HUGHES TOOL JOINTS

give long, satisfactory service—we are but repeating what successful rotary operators and contractors throughout the world have told us.

*Sold by Supply Stores everywhere*

## HUGHES TOOL COMPANY

*Branch Plants:*
Los Angeles, Calif.
Oklahoma City, Okla.

*Main Office and Plant:*
HOUSTON,
TEXAS

*Export Office:*
New York City

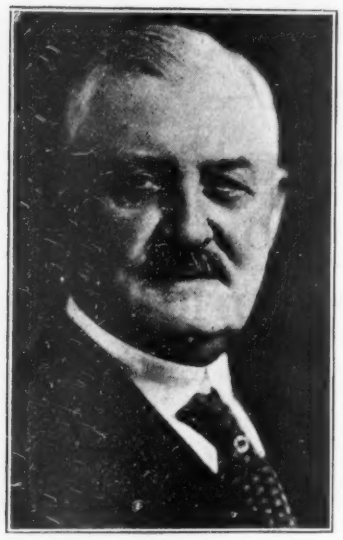

XUM

# EQUIPMENT AND SUPPLIES

## NEW MANAGER OF SALES FOR STEEL PRODUCTS CO.

Pittsburgh Steel Co. announces the appointment of Richard R. Harris as general manager of sales of the Pittsburgh Steel Co. and subsidiary companies which include Pittsburgh Steel Products Co. and National Steel Fabric Co. Mr. Harris has been general manager of sales of Pittsburgh Steel Products Co. for about 20 years.

George W. Jones, who has been assistant general manager of sales of Pittsburgh Steel Co., now becomes manager



Richard R. Harris

of sales succeeding John F. Hazen who resigned. Charles F. Palmer, who has been manager of the Chicago office of the Pittsburgh Steel Products Co., becomes manager of sales of this company and Edward L. Benedict continues as vice president and manager of sales of the National Steel Fabric Co.

In 1901 when the Shelby Steel Tube Co., which he joined in 1898, became a part of the U. S. Steel Corp., Mr. Harris was one of the three salesmen retained, and he remained with the corporation until December 1906. In December, 1906, he was made manager of sales of the Seamless Tube Co. of America, when the name of this company was changed to the Pittsburgh Steel Products Co., he became its general manager of sales and continued in this capacity until the present.

Mr. Harris' appointment comes as a climax to his 50 years of business activity. Just 50 years ago he began his business career as a traveling salesman; 30 years ago he got his first position in the tube industry and 20 years ago he became the manager of sales of the tube company whose sales he has capably directed during the past two decades.

## JOINS DU PONT FORCES

C. W. (Count) Owsley, formerly master car builder for The Texas Company, has joined the E. I. DuPont de Nemours Co. forces and will represent them in New York in the oil industry sales of the Duco department.

## BRANCH AT ISOM, TEXAS

The Continental Supply Co. has erected a building at Isom, in the Texas Panhandle and is preparing to start a branch store there. Isom is at the end of the Santa Fe Railroad branch now under construction from the town of Panhandle.

## CALIFORNIAN OFFERS STANDARD CORE BARREL TO FILL A NEED

By R. G. Garretson

Little progress had been made in past years toward perfecting a core barrel for use in cable tool territory and the real need for an efficient standard core barrel prompted R. C. Baker, president of the Baker Casing Shoe Co., to invent one. The many advantages to be gained by the ability to bring to the surface samples of the formation penetrated are too well known to operators to call for any further comment.

Rotary operators have not had so much to complain of in regard to cores, although it is admitted that there is still room for improvement. On the other hand, cable tool operators have been handicapped because of their inability to secure adequate cores of formations drilled. It is true that they have used a punch barrel or biscuit cutter which is a short barrel sharpened at the bottom and run on the jars. By jarring, a 6 to 8-inch barrel is driven into the formation much on the same principle as a belt punch. At best only a short core can be taken by this method, the other objections to its use being inability to core hard formations, large number of unsuccessful runs, the necessity of changing makeup of string of tools and the damage to the core barrel itself.

With the Baker standard core barrel it is now possible to take accurate, uncontaminated cores of approximately 3 inches in diameter in even the hardest formations.

### Core Barrel Described

The Baker core barrel consists of a hollow drill barrel within which a hollow core tube is reciprocally mounted so that a vertical reciprocation of the drill barrel will drive the core tube over the core of the formation penetrated.

The drill barrel is composed of three essential sections—a head, main body and a drilling shoe. The core tube is likewise composed of three sections—a head, main body and a core shoe. The drill barrel head is fitted with a pin to screw into the box of the drill stem, and is threaded at its lower end into the top of the main drill barrel. Circulation holes are provided leading inwardly to a chamber which is closed at the bottom by a spring-pressed back-pressure valve which opens downwardly.

The core tube head is connected to the top of the core tube body and is larger in diameter than this body, thereby forming a shoulder. The surface of this head is formed with vertical grooves or splines to serve as water courses. A ball check valve is provided to allow for the discharge of drilling water trapped in the core tube as it fills with the core, passageways being provided from the valve chamber to the outside of the head. The core tube is constructed to receive the impact imparted by the drill barrel head. Ample clearance is allowed at the top of the core tube so that any tendency to batter where hard formations are encountered will not cause the barrels to freeze.

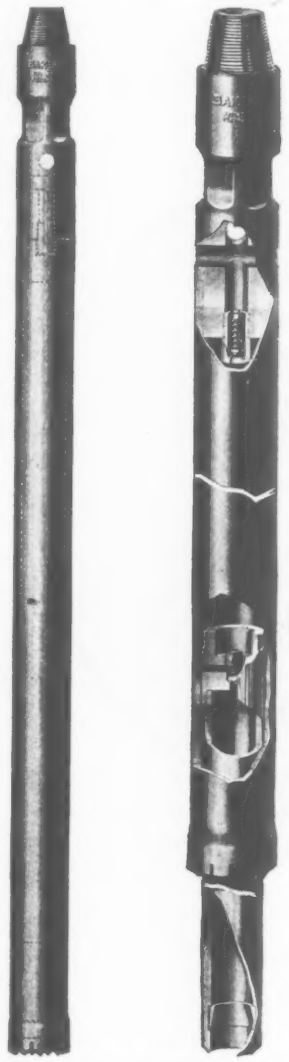
The drilling shoe is made with a clearance at the cutting edge to allow the barrel to drop freely in the hole. The cutting teeth are spaced irregularly to prevent keyseating and are tipped with a special alloy metal. It is connected to the lower end of the barrel with a special tool joint thread and being smaller than the inside diameter of the barrel, a shoulder is formed which prevents the removal of the inner core tube which has a shoulder at its upper end as previously described. The inner surface of the drilling shoe has water course grooves to allow for the free passage of liquid from within the barrel.

The core tube shoe is connected to the lower end of the core tube body and is made with a sharp bevel edge also tipped with special metal alloy. A loose, split, retaining ring is mounted on the inside near the cutting edge to pinch off the core and hold it in place.

### How to Use Core Barrel

Below is given an extract from directions issued by the Baker Casing Shoe Co.:

"None of the joints are set up tight—so you can take the entire tool apart and



Two views of the Baker standard core barrel, used in coring in wells being drilled with cable tools.

examine thoroughly before it is run. Perfect knowledge of its construction should be an aid in operation.

"Take bit off stem and screw core barrel on and set up on stem. Lower core barrel to within a few inches of the derrick floor and remove set screws which will let the inside barrel (core tube) loose. Pull the tools up until the core tube swings clear. Run in the hole the same as with bit. Put bull rope on and find pickup, and hitch on the same as with the bit. Work with not quite as much motion as when drilling. Put the wristpin back in the first or second hole

(Continued on Page 74)

## CLIMAX "TRUSTWORTHY" ENGINES ARE DESCRIBED

The Climax Engineering Co., Clinton, Iowa, has just issued three new bulletins describing the application of Climax "Trustworthy" engines to various types of driven units.

Bulletin E describes the Climax power units, which are designed to be connected by belt to the driven unit. Both portable and stationary types for outside and indoor service are illustrated. This bulletin lists equipment, general description of units, horsepower curves and general information.

A second bulletin, F, describes Climax engines direct connected to generators. A very helpful table is included, showing the kilowat range of each model of engine. The bulletin is complete with illustrations, equipment lists, horsepower curves and engineering data. Climax engines for generator sets are mounted on special supporting frames with an extended cast iron base to which the generator is bolted.

Bulletin G describes the Climax engine direct connected to centrifugal pumps. A table is also incorporated in the bulletin showing the head and capacity in gallons per minute which each model engine will handle. Like the generator bulletin, a complete description of the engine is given, with horsepower curves, lists of equipment and other pertinent data. Both bulletins contain detailed information blanks for ordering.

These bulletins mark an advance in the selling of gasoline engines. It is now possible for a pump or generator salesman to specifiy a gasoline engine for his customer, with assurance that it will suitably meet the needs of the user. The unit is sold complete, ready for mounting the pump or generator. Since the engine sub-base and coupling are bored to meet the requirements of the unit to be mounted, the actual mounting of the driven unit is a comparatively easy matter. It can be done by unskilled labor.

Copies of the new bulletins are available and will be sent on application to the Climax Engineering Co., Clinton, Iowa, or to any of their representatives.

## TRADE LITERATURE RECEIVED

A booklet entitled "Cast Iron Pipe Inspection," by the Robert W. Hunt Co., Chicago, Ill.

Catalog No. 22 by the Mueller Steam Specialty Co., 502 West 126th St., New York, describing pressure reducing and regulating valves, strainers, boiler controls and other equipment.

M. A. Connor, Lockport, N. Y., folders on "Connor Universal Unions" and the Connor drainage device for drawing b.s. and water from tanks.

The Alexander Milburn Co., of Baltimore, Md., a booklet on Milburn welding and cutting apparatus.

Chicago Pneumatic Tool Co. of New York, two folders pertaining to that company's "Little Giant Grinder No. 33, Little Giant Electric Drill No. 25B, and Little Giant Electric Screw Driver and Nut Runner."

## ACME'S TWO NEW STORES

Acme Fishing Tool Co. has announced the opening of two new stores at Albany and McCamey, Tex., with Eugene McCluney and E. J. Hunter in charge. Both stores will carry the full line of Acme drilling and fishing tools.

These stores will be operated by McCluney and Hunter, in addition to their store at Cross Plains, Tex., under the name of Acme Tool Co. Their headquarters will be in the First National Bank Building, Breckenridge, Tex.

XUM

# READING PIPE

## GENUINE WROUGHT IRON

## *"Perfected" in 1848*

IT is still made in the same painstaking, thorough manner—of the same hand-puddled "blooms"—as it was in 1848.

Even though "Reading" is now the world's largest producer of Genuine Wrought Iron Pipe, it has reached its present capacity by adding to the number of units rather than increasing their size.

Except for the date rolled into each length, 1926 Reading Genuine Wrought Iron Pipe is identical to the kind our grandfathers bought in 1848.

**READING IRON COMPANY**
READING, PA.

***World's Largest Makers of Genuine Wrought Iron Pipe***

OIL WELL SUPPLY CO., Distributors. Inquire at any of their 100 branches.

## ODD FEATURES OF THE THOMAS FIELD

(Continued from Page 32)

which is believed to be the equivalent of the upper part of the Viola limestone.

Though the entire thickness of the Simpson formation has not been penetrated in the Thomas Field, from data in nearby areas, it is believed to be approximately 300 feet thick. The top member of the Simpson is the Wilcox sand, a practically pure quartz sand made up largely of well rounded and frosted sand grains. This sand is readily recognizable because of its purity, the character of its grains, the presence of scattered thin green shale partings, and the total absence of the small flakes of mica which are characteristic of the lower Pennsylvanian sands.

In the Tonkawa Field, the thickness of the Wilcox member is about 120 feet. The remainder of the Simpson section there consists of alternating beds of black and green shale and the thinner beds of sandstone similar in character to the Wilcox sand.

Below the Simpson formation is an unknown thickness of the "siliceous lime" of Cambro-Ordovician age.

**Structure and Geologic History**

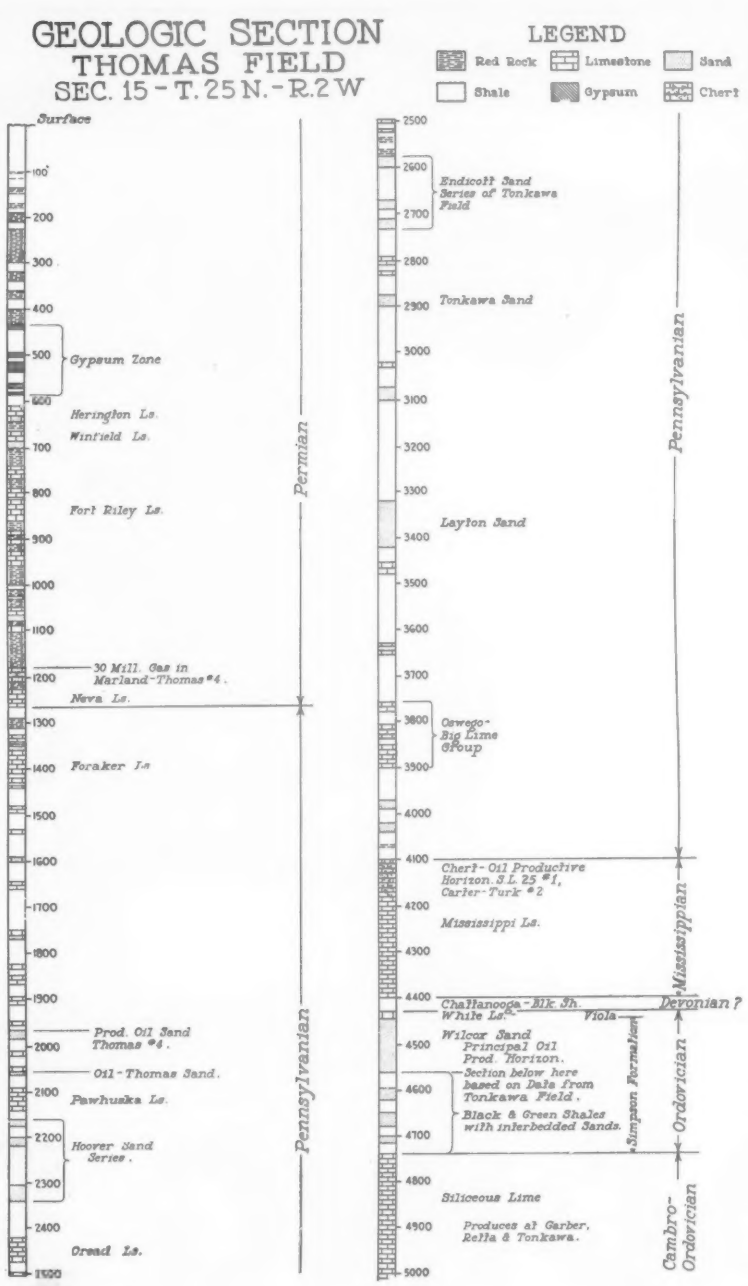
The Thomas Field lies on a major line of folding passing through the Blackwell, Otsbot, Retta and Garber fields. The structure and geologic history of all these fields are closely related.

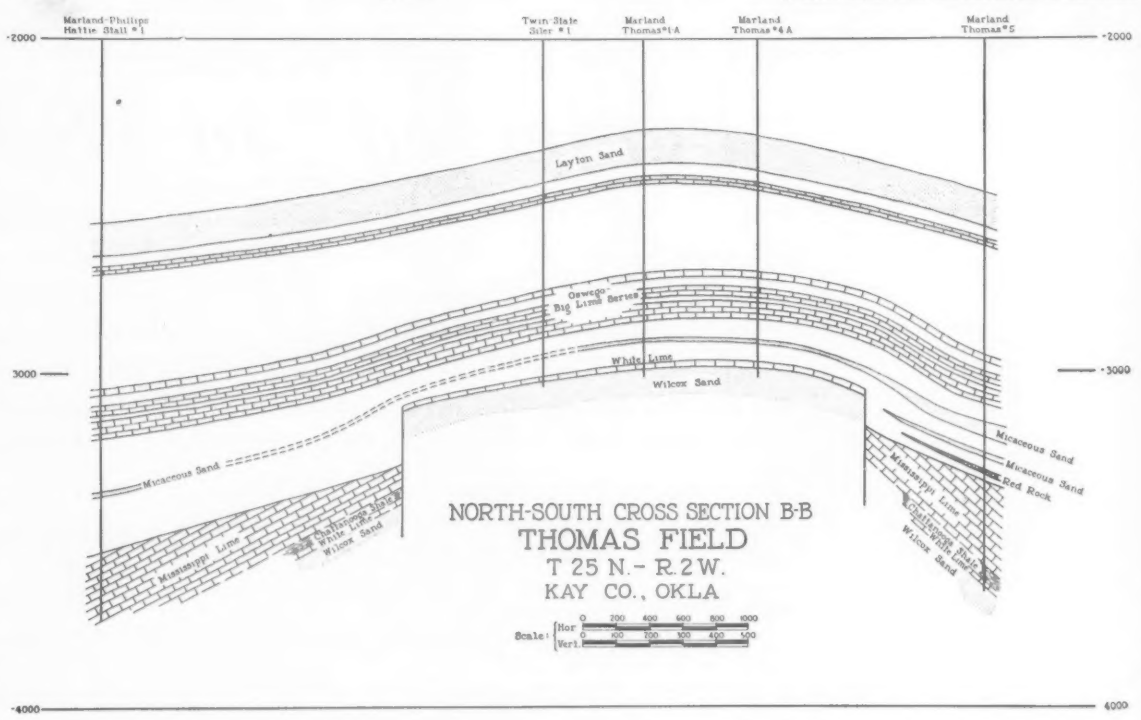
From the evidence now available it appears that the first local structural movement affecting this area came at the close of Mississippian time. As a result of this movement, a wedge-shaped segment of the pre-Pennsylvanian rocks was elevated approximately 1,000 feet above the adjoining area. The structure developed by this movement is indicated on the structure map by contours drawn on top of the "white lime." (Figure 4).

During and subsequent to the elevation of this wedge, erosion altered its topography by removing from its crest between 300 and 400 feet of sediments, including all the Mississippi lime," the Chattanooga shale, the "white lime" and part of the Wilcox sand, thus leaving an inlier of Wilcox sand exposed at the top and the truncated surfaces of the "white lime," Chattanooga shale and "Mississippi lime" successively exposed on the flanks. Beds of residual chert, presumably resulting from the concentration of the silica originally present in the eroded portion of the "Mississippi lime," accumulated on the slopes of the hill.

The original form of the wedge was further modified by a reduction in the height of the fault scarps; that is, the areas immediately adjacent to and on the upthrown sides of the faults, being more exposed, were reduced more by erosion. This is strikingly illustrated by a comparison between Marland Oil Co.'s No. 1 Turk, NE SE NE, Section 21, and Carter Oil Co.'s No. 4 Turk, NW NE NE, Section 21. The structure on the top of the "white lime" shows Marland's No. 1 Turk to be only about 25 feet lower than Carter's No. 4 Turk, whereas the top of the "Mississippi lime" in Marland's No. 1 Turk is about 100 feet lower than the top of the "Mississippi lime" in Carter's No. 1 Turk.

The topography and real geology of this pre-Pennsylvanian hill, as it would now be if the overlying strata were removed, are shown graphically by the accompanying map (Figure 5). The point should be emphasized that this is not a structure map. Since the contours do not depict the attitude of one specific bed such as the "white lime" or the Layton sand. It is essentially a topographic map because it pictures the eroded surface upon which the Pennsylvania beds were deposited. The areal geology of this surface comprises an inlier of Wilcox sand encircled by successive exposures of the "white lime," Chattanooga shale and "Mississippi lime." This map departs from conventional topographic methods in one respect, namely, the fault lines shown on the structure map contoured on the top of the "white lime," are retained in this map to show the fault scarps that




remained at the close of the period of erosion. It was felt that this departure was justifiable because of the intimate relation between the structure and topographic maps in this instance.

The two cross sections, A-A and B-B (Figures 2 and 3), also show, in vertical section, the relation between the pre-Pennsylvanian structure and topography, and give an accurate impression of the amount of material removed by erosion.

Following this period of erosion, the pre-Pennsylvanian hill was gradually submerged and eventually buried under several thousand feet of sedimentary rocks. For a time, however, the top of the hill formed an island in the Pennsylvanian Sea. This is indicated by the fact that the first beds deposited on the flanks of the hill do not extend over its crest; and also by the fact that the crest of the hill contributed some material in the form of Wilcox sand grains and small fragments of green shale to the earliest Pennsylvanian bed, the shale between the red rock and the top of the "Mississippi lime."

But even after this hill was completely buried, its presence influenced the entire subsequent geologic history of the area. In fact, the structure of the younger rocks is simply a modified likeness of the topography of the buried hill. The degree of likeness decreases steadily upward, that is, the folding of the successive beds becomes less pronounced, the dips becoming more and more gentle, as the thickness of intervening strata increases.

In conclusion, it seems desirable to summarize the evidence which supports the interpretation of the pre-Pennsylvanian structure presented in this paper, namely, that the principal structural feature is not a true dome but an elevated wedge-shaped block, faulted on both sides.

1. The brittle character of the rocks involved makes it almost inconceivable that a dome of such small area could be elevated to such a height without faulting. The "siliceous lime", which underlies the entire area, and presumably extends down to the basement granite, contains no shale beds of appreciable thickness. From the Simpson section, found in the Tonkawa Field, it seems safe to assume that the total thickness of shale, including the Chattanooga, below the top of the "Mississippi lime," does not greatly exceed 150 feet.

2. The lack of any pronounced flexure of the beds within the area of this wedge also argues against the existence of an unfaulted fold. For instance, in the east-west cross section, A-A (Figure 2), the points at which the top of the Wilcox sand was encountered in Marland

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Will stand up under the most severe service *—no danger of breakage.*

The *forged steel* from which the Braden Head is made has a carbon content of from 50 to 60 points and tensile strength of from 90,000 to 110,000 pounds.

***For working pressures up to 4000 pounds***

"Barsco" Forged Steel Braden Heads are provided with an inner thread into which a short piece of casing is screwed. The head is then lowered into position below the derrick floor and set up. Outlets are threaded for 2-inch or 3-inch pipe. These heads are furnished with rubber rings for packing and a hinged iron ring which can be removed, allowing the couplings to be pulled through head without breaking any connections. Furnished with either solid or split Stuffing Box.

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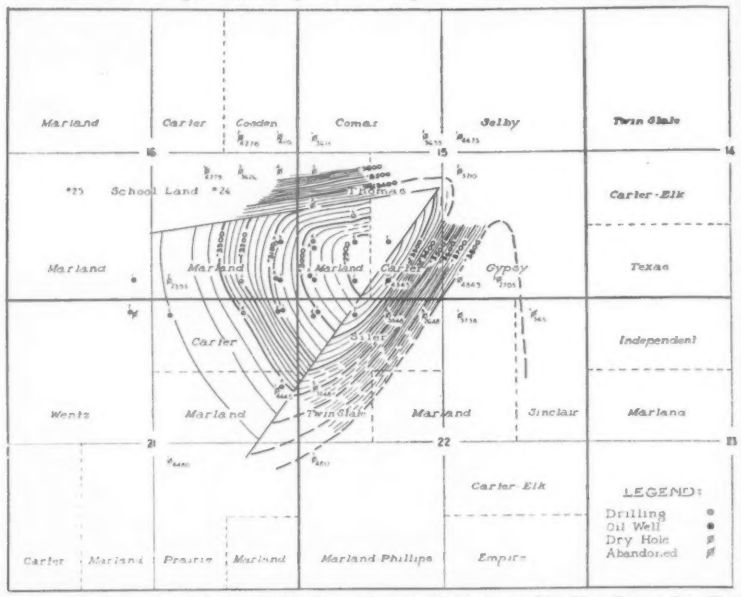
Oil Co.'s No. 7 School land No. 24, and No. 1-A Thomas, fall in a straight line, showing no curvature whatever. Similarly, in the north-south cross section, B-B (Figure 3), the top of this same sand shows only a very slight flexure from the Twin State's No. 4 Siler, to Marland's No. 4 Thomas. The degree of curvature shown here is entirely inconsistent with the dip which must be postulated if it is assumed that no fault exists between No. 4 Thomas and No. 5 Thomas.

3. The fault scarp revealed by cross section A-A (Figure 2), between the Marland Oil Co.'s No. 2 Thomas and the Carter Oil Co.'s No. 1 Thomas, as indicated by the break in the otherwise smooth curve of the pre-Pennsylvanian eroded surface, and by the abrupt change in the Cherokee shale section, affords conclusive evidence of the existence of this fault.

4. The presence of dolomitic cementing material in the entire thickness of Wilcox sand penetrated in wells adjacent to the supposed fault planes, and its absence in the other wells furnishes strong evidence of an avenue, such as a fault plane, affording a vertical circulation of water from the "siliceous lime" to the surface during the erosion period, since the "siliceous lime" is the only normally dolomitic horizon in the rocks involved.

5. The finding of a "hole full" of hot surphur water in the "Mississippi lime" in Marland's No. 5 Thomas, suggests the probability that nearby faulting has either thrown the "siliceous lime" in contact with the "Mississippi lime," or has at least provided the fissures through which this water reached its present position, since the sulphur water is indigenous to the "siliceous lime" but is normally unknown in the "Mississippi lime."




**Structure contours, top of the White lime, Thomas Field, Township 25n, Range 2w, Kay County, Oklahoma.**

## CALIFORNIAN OFFERS STANDARD CORE BARREL

(Continued from Page 70)

so as not to pick the core tube up off bottom.

"Before running, the hole should be as clean as possible so that the core tube will not fill with thick mud and cavings before reaching bottom.

"After drilling with core barrel from 3 to 5 feet with slow motion, run with a fast motion for a few revolutions and then pull out. Set on derrick floor and allow core tube to telescope its full length into the drilling barrel; put set screw back in place to hold core tube from moving. Unscrew the drilling shoe from the drilling barrel, then loosen set screw so core tube will come out again. Unscrew bottom shoe from core tube and extract the core. If the core is stuck in the barrel it will be necessary to unscrew the head from the top of the inside core tube and push the core out with a pusher.

"The fluid ports in the drilling barrel head are threaded for standard pipe plugs. After coming out of the hole, plugs are to be screwed into three of the holes and water hose connected to the remaining hole and the barrel cleansed of drilling mud and foreign material. This should be done every time after coming out."

In further explanation, when the tool is being run in the hole, the shoulder on the upper end of the core tube will rest on the shoulder at the lower end of the drilling barrel. Upon reaching the bottom the drilling shoe will commence cutting and the lower end of the drill barrel head will pound on the upper end of the core tube head and force the core tube over the core. As the drilling shoe is operated the drilling barrel will be constantly reciprocated relative to the core tube and at each stroke will cut around the core and drive the shoe of the core tube over the core thus cut. At each upward stroke of the drilling barrel, fluid will pass through the valve in the drilling barrel head, into the chamber created between the upper and lower heads. On the downward stroke the valve in the drill barrel head will close and the fluid will be expelled downward through the grooves in core tube head into passageway between the two barrels and thence out through vertical grooves in the bore of the drilling shoe. This keeps the hole clean and permits a clean cut sample of the formation encountered to be obtained. The fluid admitted to the chamber between the upper and lower heads of the respective barrels also tends to act as a cushion or shock absorber.

**Well Known in California**

The Baker standard core barrel has been used successfully as an experiment in various localities in California. Its most notable performance there was made in the Santa Maria Field where a core was obtained in an extremely hard formation at 2,700 feet. Another company operating in the Kettleman Hills secured a core with the Baker core barrel at 5,500 feet. The experimental runs were so successful that the company decided to introduce them in the cable tool territories and was elated to learn of the success had by a large California company operating in Colorado. This company was very much interested in the tool since they had been unable to secure an adequate core even with the rotary core drill at the time they were attempting to use the rotary system. When they fell back on the standard tools they were at a loss as to how to secure samples of the formation which they claim was extremely hard. It was all the more remarkable, therefore, that they secured a core 2¾ inches in diameter and 30 inches long in 45 minutes on the first

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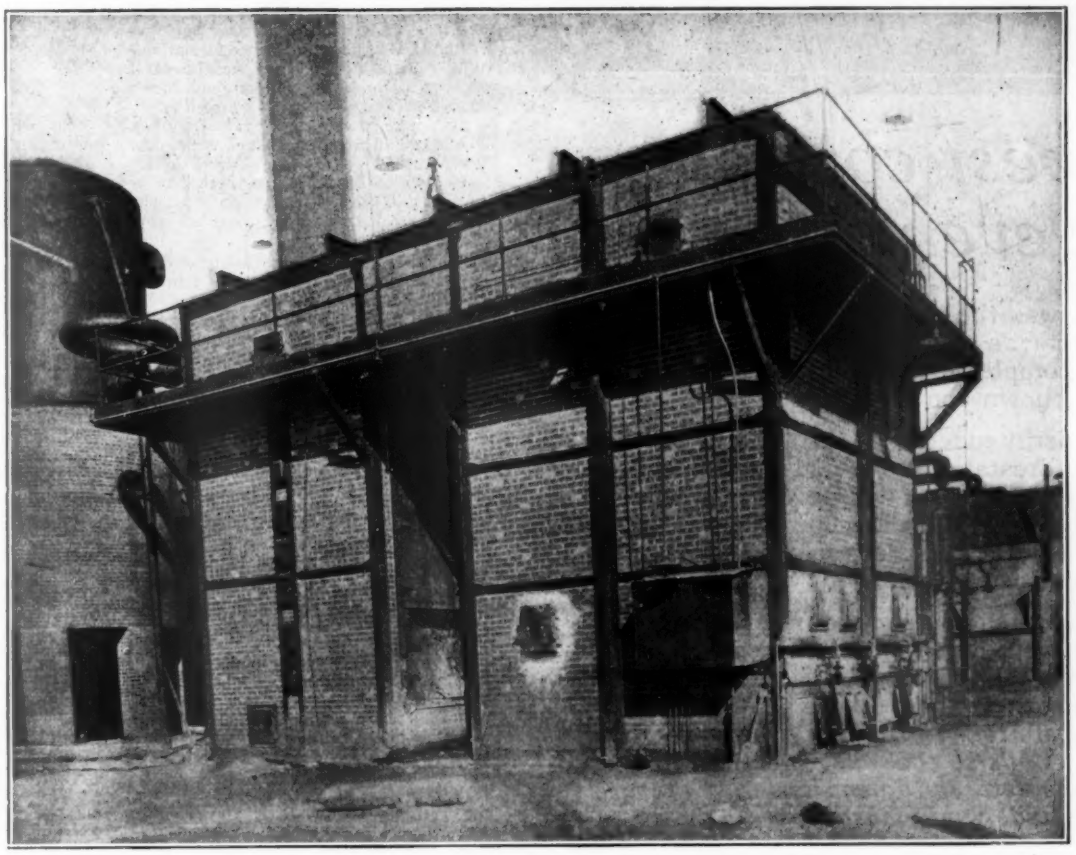

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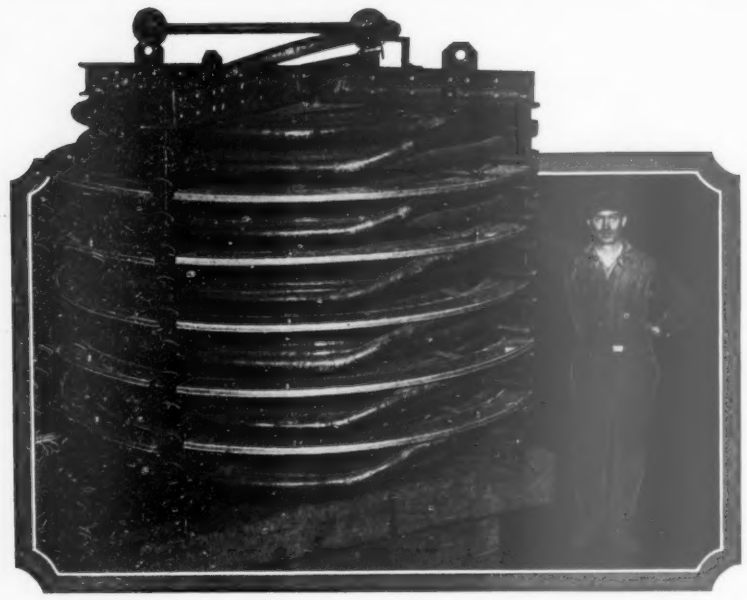

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It is interesting to know that no special precautions were taken in the Midwest Shops during the fabrication of this coil. This is simply another way of saying that: *All precautions are taken in the fabrication of all Midwest Coils so that they are absolutely tight, accurate in dimensions and have highest grade workmanship.*

Midwest engineering and shop facilities are complete in every detail, their location is advantageous, and a very large stock of steel and wrought iron pipe is always carried on hand. The significance of all this is that you get not only a coil job comparable with the one shown here but the time between placing your order and the shipping date is reduced to a minimum.

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run of the Baker barrel at a depth of 3,800 feet.

It is worthy of consideration that this core barrel does not generate excessive heat even in hard formations which might alter the characteristics of the core, which is many times the case where the rotary core barrel is used. It will also show the exact relationship of one stratum to another, as the core will not tend to disintegrate. Contamination does not result from a circulating medium as is sometimes the case where the rotary core barrel is used.

The purpose in taking a core by this company was to determine the location of the well on the structure. They were of the opinion that the well was on the edge of the structure and they learned from the core than the location was still on the top of the structure.

Application for patent on this device has been allowed.

## MICHIGAN FIELDS

(Continued from page 64)

worthless for oil prospecting, and we would have to play the deeper formations. While the evidence is not conclusive, I think there is a legitimate oil man's chance in this southeastern direction.

"I wouldn't want to go very far west. The Marshall sand at Midland is 600 feet lower than here, while at Mt. Pleasant it is down 800 feet. While there may be other structures that contain oil, why play with them now when there are more promising fields?"

Asked regarding the possibility of deeper oil strata beneath Saginaw than the Berea sand, Doctor Smith referred to the finding of oil here about 12 years ago in a stratum about 500 feet deeper than the Berea, and cited others in which there is a chance of finding oil.

"There are oil horizons below the Berea," he said. "About 500 feet deeper is what was called the Saginaw sand, where the oil was found here before. About 150 feet farther down is another formation, and another 100 feet brings another stratum. All three are in what is known as the Traverse formation. Oil has been found in all three, though they are likely to be spotty and oil existing in small pockets. Still farther down is the Dundee formation, which here would be about 1,100 feet below the Berea or about 2,900 feet below the surface. The Dundee is a known oil bearing stratum in some places, for the Petrolia, Ontario Field, which was opened in 1864, and still is producing, was in it. Whether it bears oil under Saginaw is another question, of course, and one that cannot be answered without drilling. Far below the Dundee is still another oil-bearing rock, the Trenton, but while it may contain oil, it is so far down that the drilling costs would be very high and the chance of securing oil would be small compared with the cost. The Trenton would lie at a depth of about 5,500 feet beneath Saginaw."

### Expert Studying Michigan Rocks

Positive identification of the rock formations beneath Michigan with those in other localities will be undertaken this summer by Dr. O. E. Ulrich, chief geologist of the National Museum in Washington, Doctor Smith said.

"Doctor Ulrich's visit has no connection with the Saginaw oil development, having been planned many months before oil was found here," Doctor Smith said, "but may establish facts of interest to oil prospectors. The object of Doctor Ulrich's visit will be to determine as far as possible the correct names of the geological formations beneath Michigan and identify them with the formations of other places," Doctor Smith explained.

"Here in Michigan we have many strata that are known by local names. Though we may think they are the same formations known in other places by recognized names, we cannot apply the latter until it is definitely established that the strata are the same. This will be the task that Doctor Ulrich will undertake when he comes."

### Saginaw Field News

Contractors are having a hard time getting wells down in the Saginaw area due to the "niggerheads" encountered by the drill in its downward course. A majority of the drillers have experienced the same thing. In the Vorhees well, on the Marshall farm to the west of production, the tools got stuck in the Marshall sand at around 900 feet. The top of the Marshall was struck at 825 feet, close to 200 feet deeper than the wells within defined limits, meaning another heavy dip westward. The drilling outfit had to be moved over a short distance on the Engle farm, where Contractor Edward Stewart was drilling a well for the Bliss Petroleum Co. The same thing prevailed at the well of Glen R. Wilson on property at Oakley and Weiss Streets. The Sun Oil Co. had to make two moves on the Schonheit farm well on account of boulders.

The Superior Oil Co. of Paintsville, Ky., is drilling in the Marshall sand at its well on the John Spatz land, at Hermansau and Weiss Streets. Top of Marshall was found at 610 feet and very regular with the completions already made in the field.

The Saginaw Prospecting Co. ran a string of 750 feet of casing in its second well in the Deindorfer Woods, which is owned by the City of Saginaw and should be completed within 10 days with no bad luck.

The Ohio Oil Co. has everything on the ground and spudding at its No. 1 on the Mershon-Eddy-Parker Co.'s property, northeast of the North Michigan Avenue Pere Marquette Railroad crossing.

The Gardner Petroleum Co.'s test, on the Schwannecke property southeast of Saginaw on the Hess Road, is down close around 500 feet. In the same vicinity, a rig is being constructed for George H. Wickham and others on the John Kundinger farm, on Weber Street, east of the Pere Marquette Railroad.

The Saginaw Development Co. has started work at its well on the Martin Hanson farm, on the Hermansau road. The same company expects to start at once a drilling outfit on the Bremer farm, on the Shattuck road.

Vorhees & McNally are shipping in material for a rig on the Charles Ulrick farm, at the junction of the Hermansau and Shattuck roads.

The Ohio Fuel Corp. has started its well on the Ernest Fisher farm, on the Bay road, half a mile north of the Shattuck road. McKinney Brothers are the contractors.

There is talk of a test well to be drilled just across the Saginaw County line in Bay County, on the Gearing farm. This location is on the Bay road and is to be drilled by Oscar Barr, Lee Rosier and Jack Hendricks of Detroit. It is about 5 miles north of the Shattuck road and about 4 miles north of the Bliss Petroleum Co.'s venture on the Boldebuck farm.

### New Leases Recorded

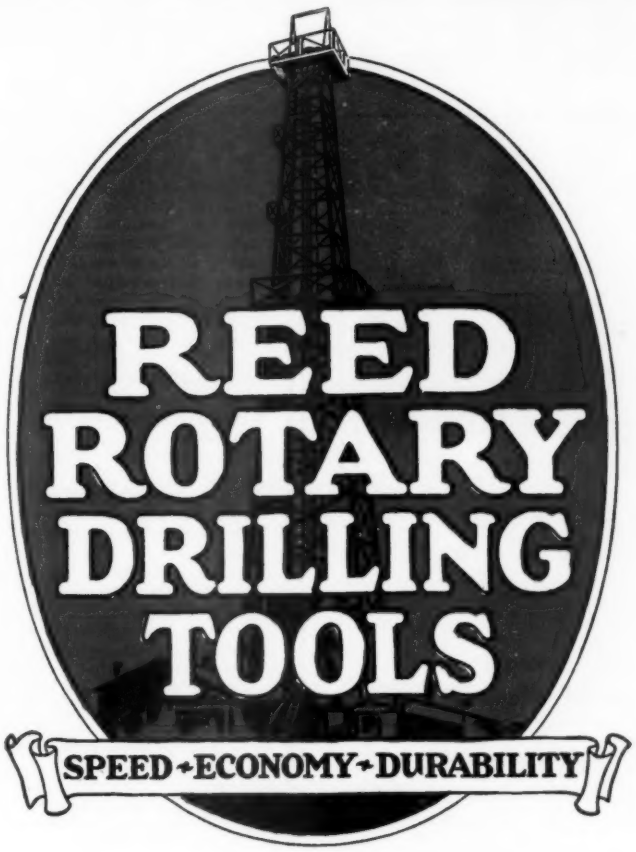
Four leases were filed for record by the Kessling Drilling Co. of Junction City, Ky. They are all in Kockville Township, a total of 62 acres, consisting of the Dave Garey 15 acres; Jacob Loeffler 10 acres; Ferdinand Zohn 10 acres and George Offenberger 27 acres.

Henry Martens of Willmette, Ill., filed lease of 263 acres on the Rock Poestez farm, in Spaulding Township.

The Farmers' Mutual Leasing Association filed six leases on 126 acres in Taymouth Township, and 185 acres in the Birch Run. In the first were three leases of 36, 80 and 10 acres, and in the other three leases of 40, 65 and 80 acres.

The Sun Oil Co. of Toledo, Ohio, recorded late leases as follows: C. E. Sanderson, 40 acres, Brant and St. Charles Townships; Anna Sanderson, 85 acres; W. S. King, 80 acres in St. Charles Township, and 60 acres in Brant Township.

The Saginaw Prospecting Co. recorded leases as follows: Gerald Griffin, Lot 172, Waterworks Park; Mrs. Mary Nuerminger, 40 acres, Saginaw Township; Paul Pscolka, one lot and part of another in the Deindorfer addition; Earnest A. Jannuzzi, Detroit, four lots in Whitmore Heights; Carl E. Sperling, four lots in the John J. Weiss addition; Aphela Periard, two lots in Union Park.

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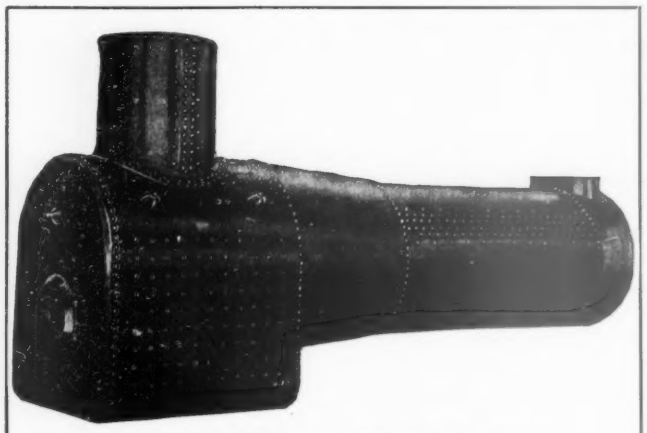

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# DEMAND FOR DRILLING MATERIAL TO CONTINUE TO CLOSE OF SEASON

By B. E. V. Luty

PITTSBURGH, Pa., July 5.— While there is no noticeable increase in the actual volume of specifications and shipping orders reaching the pipe mills, there is a stiffer situation as to deliveries, for it develops that some of the mills have been unable to keep fully their recent delivery promises and are behindhand in shipments. This makes a stronger position for the pipe mills in general than had been assumed, for a month or two ago there was gossip that while mills were talking of needing several weeks to make deliveries of certain sizes. they could, if the buyer insisted, make an earlier delivery than at first offered. Now, it would appear, the mills really needed the time they asked for, and when they undertook to make earlier delivery they were unable to do so.

This delay in delivery applies only to certain sizes of lap weld. Prompt shipment can be had of other sizes, and there is no delay in merchant pipe.

The volume of business holds up very well, there being no decrease in incoming business even though the midyear date has now been passed. As to oil country goods generally, the mills interpret this to indicate that the extensive drilling programs formed for this year have not been altered by reason of the increase in oil production in the past few months, so that the present rate of demand for well material is likely to continue for some time, or until towards the close of the active drilling season.

**Mills Well Filled**

There is not much line pipe inquiry out at the moment, and mills are not anxious for such business at this time, being well filled for deliveries on old orders. The Youngstown Sheet & Tube Co. recently took an order for 100 miles of 16-inch O. D. pipe, 42 pounds per foot, from the Upham Gas Co. for laying in Texas, which with other business fills it quite comfortably, while the other Youngstown producer is well booked on line pipe.

Buying of merchant pipe continues heavy. This demand was late in having its seasonal development, and it is holding up correspondingly well now, when in some years demand would be tapering off on account of jobbers wishing to curtail stocks. They have not had any stocks of consequence lately, and there are some reports now of eastern jobbers being engaged in building up or rounding out their stocks.

Pipe mill operations are now estimated to be averaging 90 per cent, representing the best rate of the year. Lap weld furnaces are nearly all engaged and of what little idleness there is, nearly all is of butt weld furnaces.

Production of steel ingots in the first half of this year was about 24,250,000 gross tons, or 8 per cent above production in the first half of last year. The possibility of the second half of this year also making an 8 per cent gain over the corresponding period cannot be denied, but as 1925 as a whole was a record year it seems rather much to expect this year to pass it by as much as 8 per cent. The half year now begun could run a trifle short of production in the second half of last year and still leave this calendar year 4 per cent above last year. Two record years in succession would be quite a performance, even for the steel industry.

**Prices Strictly Maintained**

While tubular goods prices are strictly maintained, as they have been more or less for more than three years, there are uncertainties in some other lines. Bars, shapes and plates were recently marked up in asking prices, but it cannot be said that the existing market is strictly and fully on the advanced basis, but neither can it be said that the mill effort to advance prices has really failed.

The sheet market has not lost any ground in prices in the past week or two, and buying has increased, suggesting that the protracted decline has at last come to an end. Chances have improved of sheet bars holding for third quarter at their old price of $36 and if that occurs the sheet market is likely to advance a little.

Valley pig iron remains very dull, while in surrounding districts there has been quite active buying for several weeks.

## EASTERN FIELDS

(Continued from Page 64)

ural Gas Co. has rigs up for tests on the C. B. Nutter and H. P. Camden farms.

**Wirt County**

In Clay district, Wirt County, the Roberts Oil Co. has made the location and is building the rig for a second test on the Lenora Rex farm. In Walker district, Wood County, the Power Oil Co. has made the location for No. 111 on the Colcanic tract. In Southwest district, Doddridge County, the Pittsburgh & West Virginia Gas Co. has started to drill in the Eli Nutter farm.

In New Milton district, Doddridge County, Trainer & Travis have completed a test on the C. L. Ford farm, good for 3 bbls. a day in the Big Injun sand. In the same district, Godfrey L. Cabot's test on the R. J. Boggess farm is dry in the Big Injun sand and abandoned.

In Freeman's Creek district, Lewis County, the Hope Natural Gas Co., after giving its test on the Benjamin Riffee farm a thorough test, failed to make a producer and decided to abandon it.

In Center district, Wetzel County, the Hope Construction & Refining Co. is down 1,630 feet and cementing a cave on the Isaac Carney farm. In Center district, Calhoun County, the Hope Natural Gas Co.'s test on the L. F. Norman farm is a gasser in the Big Injun sand. In Lee district, same county, the Hope Construction & Refining Co. has a 4-bbl. pumper in the salt sand at a test on the Julia F. Cross farm.

In Center district, Wetzel County, the Hope Natural Gas Co. has a small showing of oil in the Gordon sand at a test on the Daniel Kuhne farm. In Liberty district, Marshall County, the Decem Development Co. has a Big Injun sand gasser at No. 5 on the Robert M. Bonar farm.

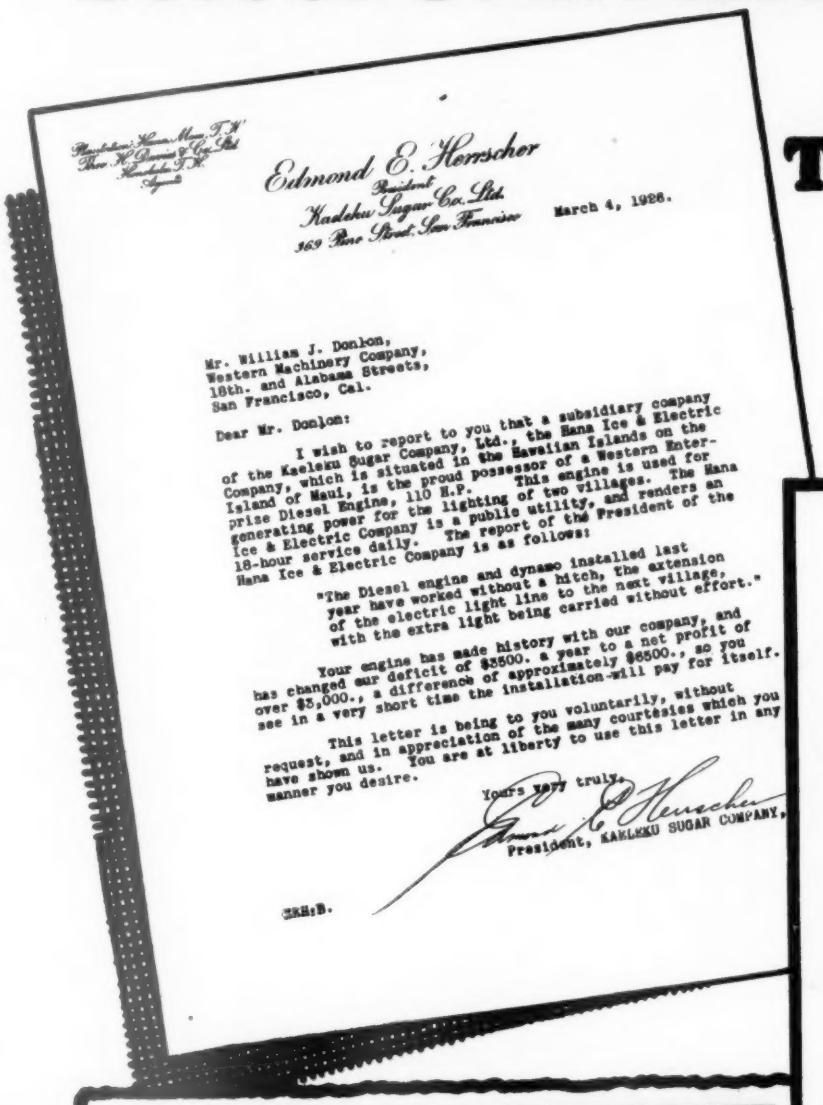
**Drilling and Starting Tests**

In Meade district, Marshall County, the Decem Development Co. has started to drill on the Frank Baker farm. In McClelland district, Doddridge County, J. H. Pence has started to drill on the Mary and Zed Underwood farm. In Union district, Tyler County, the Reno Oil Co. is drilling past a string of tools lost in the test on the Rachel Hissam farm, at 1,550 feet. In Otter district, Braxton County, the Pittsburgh & West Virginia Gas Co. is rigging up on the F. B. Dobbins farm. In the same district, the same company is drilling two wells on the Louis Bennett farm. In Center district, Gilmer County, the Mill Fork Oil & Gas Co. is rigging up on the W. E. Snodgrass farm. On McFarn Creek, Murphy district, Ritchie County, the Hardrick Farm Oil Co. is drilling a second test on the Charles Hardrick farm. On the same stream, Deems & Co. are drilling a test on the W. H. Pierpoint farm.

In Simpson district, Harrison County, the Hope Natural Gas Co. is drilling a test on the Henry Stone farm. This well was formerly a gasser in the fifth sand, now drilling to the Speechley sand. The location is 5 miles east of Clarksburg. In the same district, the same company is drilling down an old gas well on the J. H. Lewis farm. It is also drilling down to the Speechley sand old No. 1 on the Silas McQuorter farm.

In Grant district, Ritchie County, L. N. Rinehart & Co. are building a rig on the Clyde Atkinson lot. The same parties

# WESTERN-ENTERPRISE
# Diesel Stationary Engines



Edmond E. Herrscher
President
Kaaleku Sugar Co. Ltd.
169 Pine Street, San Francisco March 4, 1926.

Mr. William J. Donlon,
Western Machinery Company,
18th. and Alabama Streets,
San Francisco, Cal.

Dear Mr. Donlon:

I wish to report to you that a subsidiary company of the Kaaleku Sugar Company, Ltd., the Hana Ice & Electric Company, which is situated in the Hawaiian Islands on the Island of Maui, is the proud possessor of a Western Enterprise Diesel Engine, 110 H.P. This engine is used for generating power for the lighting of two villages. The Hana Ice & Electric Company is a public utility, and renders an 18-hour service daily. The report of the President of the Hana Ice & Electric Company is as follows:

"The Diesel engine and dynamo installed last year have worked without a hitch, the extension of the electric light line to the next village, with the extra light being carried without effort."

Your engine has made history with our company, and has changed our deficit of $3600. a year to a net profit of over $5,000., a difference of approximately $8600., so you see in a very short time the installation will pay for itself.

This letter is being to you voluntarily, without request, and in appreciation of the many courtesies which you have shown us. You are at liberty to use this letter in any manner you desire.

Yours very truly,
Edmond E. Herrscher
President, KAALEKU SUGAR COMPANY,

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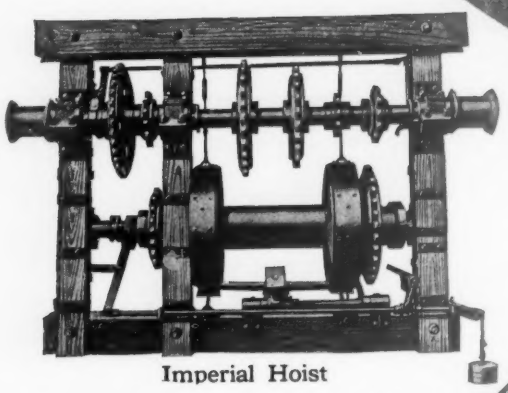

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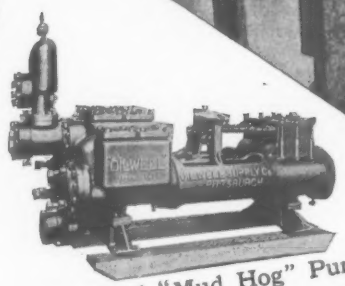

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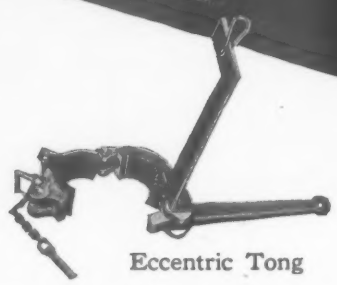

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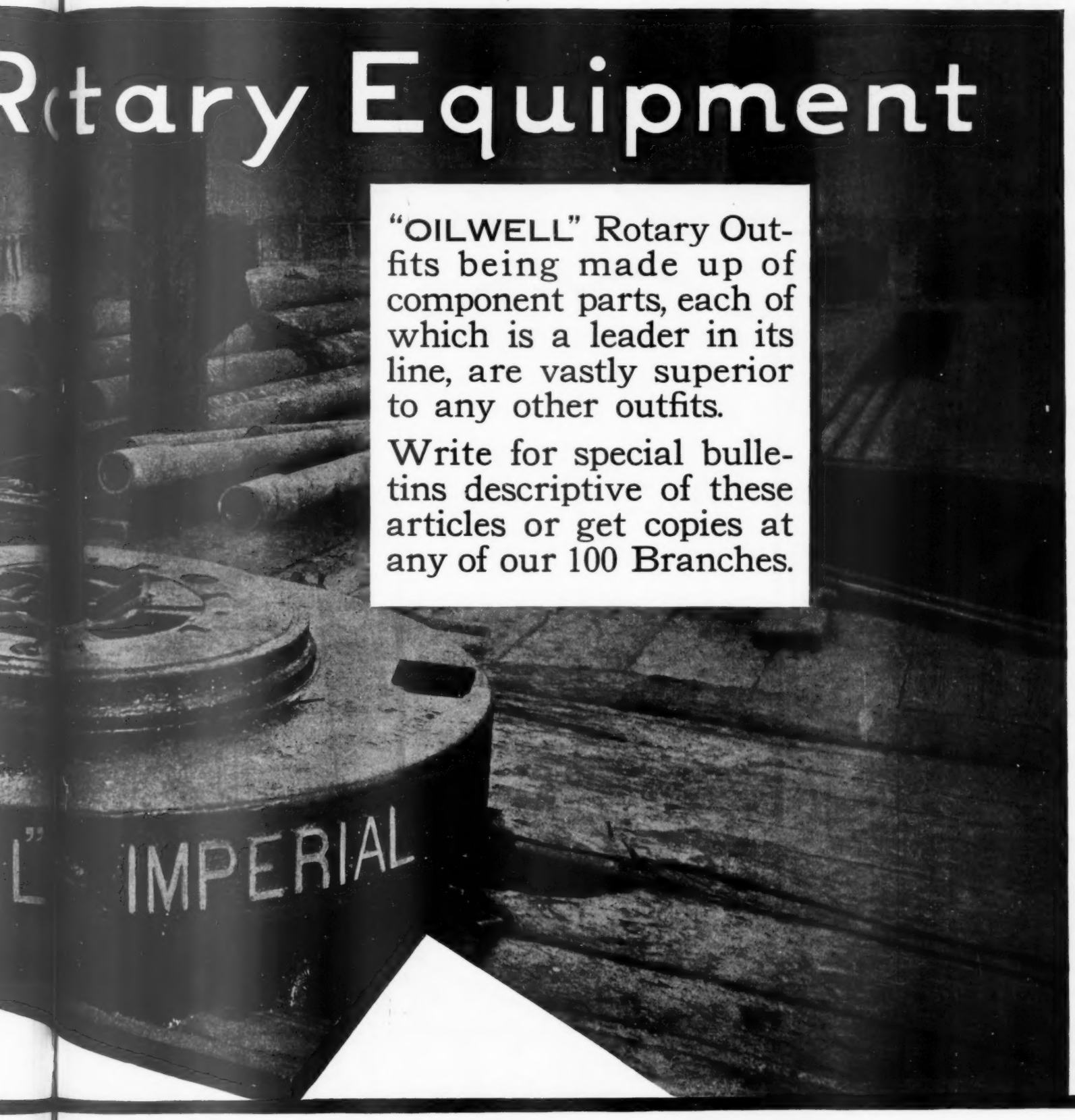


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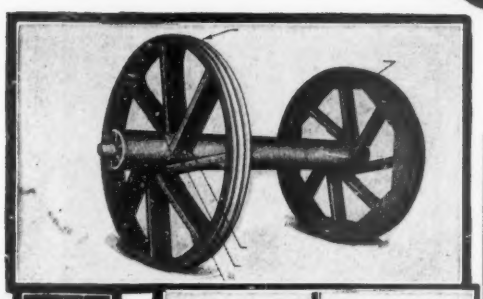

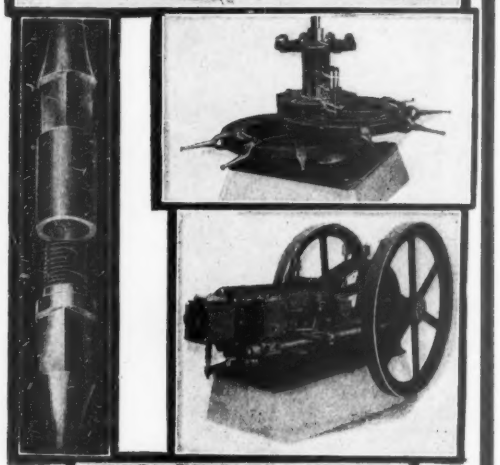

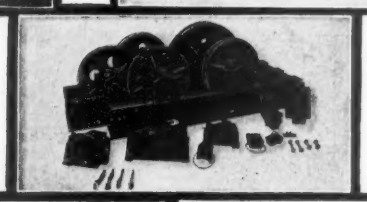

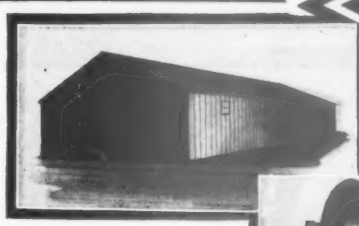

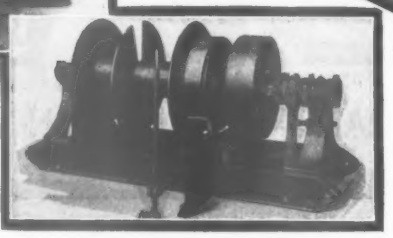

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have started to drill No. 3 on the Curtis Mitchell farm. In Murphy district, the Hardrick Farm Oil Co. has started to drill on the C. Hardrick farm. In Birch district, Braxton County, the Pittsburgh & West Virginia Gas Co. is rigging up on the E. W. Miller farm. In the same district, the Mill Fork Oil & Gas Co. is hauling tools to a location on the W. B. Snodgrass farm.

In McClelland district, Doddridge County, the Buckeye Oil Co. has started to drill on the William Ford farm. In Elk district, Harrison County, the Vesper Oil Co. is drilling on the Alva Shepler farm. In Walton district, Roane County, the Clifton Oil & Gas Co. is building a rig on the G. W. Summers farm. In Geary district, the United Fuel Gas Co. is drilling two wells and has made 15 locations.

**Southeastern Ohio**

The southeastern Ohio fields had very little to offer at the close of the week of development work. Only one fair producer completed.

In Lot 14, Hanover Township, Licking County, the Hope Construction Co. completed and shot its second test on the Hanover Brick Co.'s property. After standing four days they swabbed 90 bbls. from the Clinton sand.

In shallow territory in the northeast quarter of Section 30, York Township, Morgan County, the Swingle Oil & Gas Co. completed in the Berea grit No. 8 on the H. D. Pletcher farm. It is a very light gasser. In Section 17, Deerfield Township, same county, the Dailey Oil Co. has completed a test on the J. W. White farm. It is a duster in the Berea grit. In Newport Township, Washington County, the Peoples Banking & Trust Co., trustee, has started to drill No. 45 on the William Reader farm.

In Newton Township, Licking County, in the southeast quarter of Section 6, H. C. Farmer has completed and shot in the Berea grit No. 4 on the Ora Pound farm. It produced 6 bbls. the first 24 hours. In the Fisher Pool, in Lot 30, Gross and others completed in the Berea grit a second test on the Athens State Hospital property good for 8 bbls. a day.

In the southeast quarter of Section 27, Ward Township, Hocking County, William Sheren & Co. have a duster in the Berea grit at No. 4 on the Pearl Stacy farm. In the southeast quarter of Section 26, Marion Township, Noble County, H. M. Myers & Co.'s test on the J. C. Carpenter farm is a duster in the Macksburg 800-foot sand.

**Columbiana County**

In Section 21, Knox Township, Columbiana County, John N. Davidson has completed No. 5 on his own farm good for 2 bbls. a day in the Berea grit. In Section 42, same township and county, George Kiel, Jr., completed No. 9 on the F. S. Pieren 105 acres and it is the same kind of a pumper. In Washington Township, Monroe County, the Bentz Oil Co.'s test on the James Howell farm is a gasser in the Big Injun sand.

In the northwest quarter of Section 4, Killbuck Township, Holmes County, the East Ohio Gas Co. drilled a test on the Sanford Carpenter farm through the Clinton sand and found neither oil nor gas. In the southeast quarter of Section 22, Fallsbury Township, Licking County, the Leonard Oil & Gas Co. completed a second test on the Pover Brothers' farm and good for 10 bbls. a day in the Berea grit.

In the northwest quarter of Section 23, Jefferson Township, Noble County, Smith, Britton and others have completed in the Berea grit a test on the Smith-Britton farm not good for more than 2 bbls. a day. In the southwest quarter of Section 21, Harrison Township, Perry County, Sonaker Brothers have completed a test on the W. C. Fletcher farm showing for a 10-bbl. pumper in the Clinton sand. In the southwest quarter of Section 21, same township and county, Craig Adair has a show for a similar pumper at a test on the Pearl Long farm.

In Lot 19, Newton Township, Licking County, Moore and others have completed in the Berea grit a test on the A. W. Wharton farm. It is a duster. In the center of Section 14, Jackson Township, Noble County, Clyde Hutchinson and others have a very light pumper in the Macksburg 800-foot sand at No. 3 on the A. and E. Wagner farm.

In the southwest quarter of Section 21, Jackson Township, Knox County, the Arkansas Fuel Oil Co.'s No. 17 on the L. V. Dugan farm is good for 10 bbls. a day in the Berea grit. In Section 4, Green Township, Hocking County, the Red Top Oil & Gas Co.'s No. 8 on the Chute heirs' farm produced 16 bbls. the first 24 hours after shot in the Clinton sand.

In the southwest quarter of Section 18, Richland Township, Fairfield County, F. C. Sharpnack and others have a duster in the Clinton sand at a second test on the J. G. Huff farm.

**Athens County**

In the Fisher Pool, Section 24, Alexander Township, Athens County, C. H. Beasley & Co.'s No. 10 on the W. D. Whaley farm is good for 7 bbls. a day in the Berea grit. In the same pool, in Section 29, the Biddle Oil & Gas Co. has completed No. 4 on the John Biddle heirs' farm good for 4 bbls. a day in the same formation.

Two and one-half miles east of Joy, in Section 31, Marion Township, Morgan County, the Ohio Fuel Supply Co. has a gasser in the stray sand below the Berea grit at a test on the John Joy farm. In Section 7, Knox Township, Vinton County, the Gordon Oil Co. is drilling a test on the Wesley Walburn farm.

In the northwest quarter of Section 10, Jackson Township, Noble County, Ohio, Levi Hall & Co. have completed in the Macksburg 800 foot sand No. 4 on the C. F. Misell farm, a very light pumper. In Section 20, Liberty Township, Washington County, Charles Erb & Co.'s test on the Isaac Null farm is a very light gasser in the stray sand.

In the northeast quarter of Section 28, Enoch Township, Noble County, Casper Schott & Co. have completed No. 3 on the Casper Schott farm. It is a duster in the stray sand. In Section 10, Bowling Green Township, Licking County, the Midland Oil Co. has moved a drilling machine to a location on the A. D. Cooperrider farm. In Lot 17, Madison Township, W. W. and A. T. Wehrle are drilling for a Big Lime producer on the Ingram farm. In Newark Township, southeast of Newark, the same parties are drilling for a Clinton sand producer on the Mrs. Long farm.

**Southwest Pennsylvania**

In Morris Township, Greene County, Pennsylvania, the Natural Gas Co. of West Virginia has drilled in and has what promises to be the best producer of the week. It is this company's No. 4 on the T. F. Rutan farm. The first 25 hours after drilled into the Gordon sand pay it produced 130 bbls. During the week the Consumers Fuel Co. cleaned out Nos. 1 on the James S. Rutan and Alfred Rutan farms and they are holding up at 155 and 133 bbls. a day respectively.

**Good Gasser**

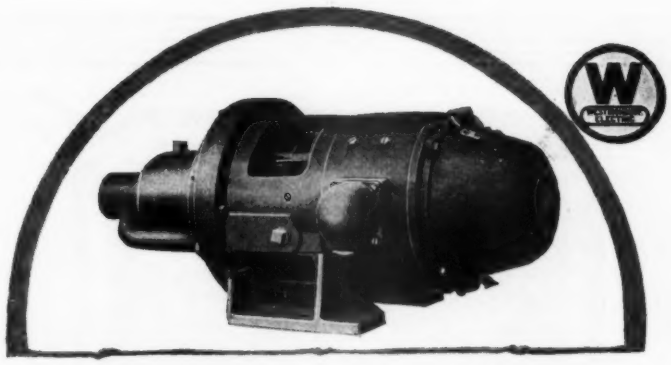
One mile south of Swart, Morris Township, Greene County, the Manufacturers' Light & Heat Co. in a test on the D. W. Hopkins farm got a good gasser estimated to have a capacity of 8,000,000 feet a day.

**Greene County Gauges**

In Morris Township, Greene County, Pennsylvania, late gauges of the best wells are as follows: Consumers Fuel Co.'s No. 1 Alfred Rutan, 150 bbls.; same company's No. 1 James S. Rutan, 125 bbls., and the Natural Gas Co. of West Virginia No. 4 T. F. Rutan 130 bbls., and still drilling in the Gordon sand.

In Findlay Township, Allegheny County, E. L. Oles' test on the Wilson heirs farm is dry. In the same district the Clinton Oil & Gas Co. has a gasser at a second test on the S. B. Matchett farm.

In Morris Township, Greene County, the Manufacturers Light & Heat Co. has drilled down to the fifth sand its test on the Dennis Iams farm. It is a gasser.

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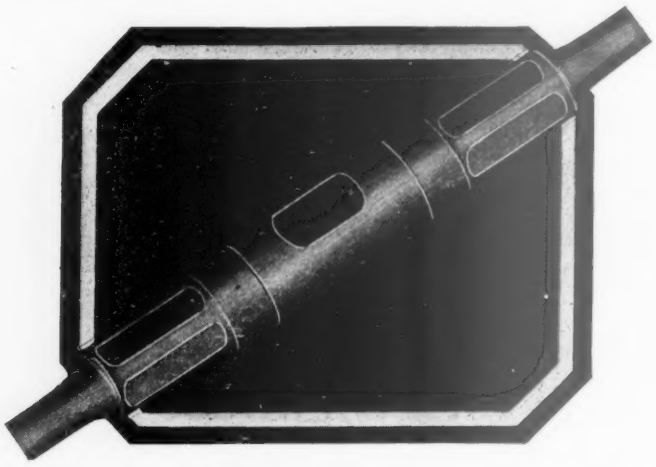

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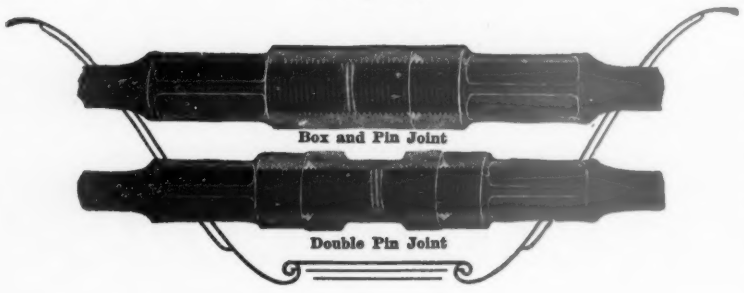



In the same district, the Carnegie Natural Gas Co.'s test on the J. L. Hoge farm is dry in all sands. Two miles south of Sycamore, Center Township, the Philadelphia Oil Co. has a gasser in the Big Injun sand on the Floyd Conklin farm good for 1,000,000 feet.

In Perry Township, Greene County, the Peoples Natural Gas Co. has completed a test on the J. Lemley farm. It is dry in all sands. In Greene Township, J. L. Garard has completed No. 5 on the Margaret J. Longanecker farm. It is a good gasser in the Big Injun sand.

## KENTUCKY-TENNESSEE

(Continued from Page 60)

from the North Weir Field of Lawrence-Johnson Counties where the division line of the two counties joins Morgan County. The wells are not proving as large producers as in the North Weir Field proper but even a small stripper is of value in the sand which has such renowned staying qualities. This new development is not directly westward from the heart of the North Weir Pool but to the southwest and also to the northwest of Redbush. To the south a considerable distance is the Ophir area of Morgan County where some small wells are found, which is close to where the North and South Weir Fields join. The Ophir Field is directly west from the Hayden Williams Pool, where some good wells were brought in three or so years ago. There is also a large area lying between the big camp of the Swiss Oil Corp. and Louisa, a distance of approximately 28 miles as the crow flies. There are producing wells at Louisa, along the Big Sandy and Tug Fork Rivers, the division line between Ohio and West Virginia, but west of Louisa toward North Weir Field there is quite a distance to cover before the B'aine Field, one of the oldest in the Big Sandy country is reached then between Blain and Martha there are strips of undeveloped territory well worth the trying out for production to say nothing of the territory to the northwest of Louisa. The old Bartlesville Field lies to the southwest of Louisa and the Big Blaine Creek runs through the center of the North Weir Field.

Johnson and Magoffin Counties are getting their share of the development work, as is the Beaver Creek Field of Floyd and Knott Counties. In the extreme southeastern portion of the State very little test work has been done, but thousands of acres are held under lease, especially where the trade figures there lies an interesting gas area that can be developed in the future. There has been considerable talk of piping natural gas to Knoxville and intervening towns and cities but nothing definite has been done.

### North Weir Field

Six new completions are reported from the North Weir Field of Lawrence-Johnson Counties. In District 22-A, near the hamlet of Keaton, the Keaton Oil & Gas Co.'s No. 32 on the Jesse Lyons farm, is credited with a production of 10 bbls. with No. 33 under way.

In District 22, the Swiss Oil Corp.'s No. 15 on the C. E. Fraley farm, was completed for 6 bbls. Holland & Wade, formerly of the Union Gas & Oil Co. but now operating for themselves, have drilled in their No. 4 on the John M. Sparks farm, getting a 4-bbl. pumper. Garrison & Townsend's No. 5 W. W. Bailey farm, pumped 5 bbls. while No. 5 L. M. Hay farm, showed 5 bbls. and No. 6 same farm, 4 bbls.

In District 22, the Swiss Oil Corp. is drilling new wells as follows: No. 9 R. N. Sparks No. 1 farm; No. 31 Proctor Sparks; No. 12 Caney Sparks farm and No. 13 Ben Ferguson farm. In District 22-A, this company is drilling No. 31 Sanford Lyons farm and No. 21 on the C. K. Dobyne No. 1 farm. In District 32, same company is drilling No. 14 P. P. Holbrook No. 2 farm. In District 22, Garrison & Townsend are drilling No. 6 W. W. Bailey farm and No. 7 L. M. Hay farm, while Holland & Wade are doing the same at their No. 5 on the John M. Sparks.

### South Weir Field

In the South Weir Field of Johnson-Magoffin Counties, nine new completions are announced. The Atlantic Oil Co. drilled in a 10-bbl. pumper in No. 20 on the Gordon Blanton farm, District 25, and is drilling No. 21.

In District 27, S. J. Patrick drilled a duster at a test on the San Williams farm. The Burton Fork Oil Co. is drilling No. 9 Ben McCormick farm.

In District 29, the R. G. Gillespie estate's No. 2 on the Yearns Hale farm, is reported at 12 bbls. which No. 2 on the J. D. Adams farm, is a 2-bbl. pumper. C. C. Bosworth's No. 1 on the Brack Borders 32 acres, pumped but 1 bbl. Hudson & Collins are drilling No. 10 on the Oscar Wheeler farm.

In District 30, Ralph Stafford and others' test on the Gallen-Masters farm is showing for 2 bbls. F. M. Tackett is drilling a second test on his own farm and the Pelphrey Heirs Oil Co. is at work at a second test on the Pelphrey heirs farm.

In District 31, the Bed Rock Petroleum Co. one of the older producing companies in the Paintsville Field, of Johnson-Magoffin Counties, brought in a 30-bbl. producer at No. 2 on the J. H. Arnett farm. The Elkhord Coal Co. landed the same sized producer in its No. 2 John M. Adams farm, while the South Fork Oil Co.'s No. 8 H. H. May farm, produced 25 bbls. No. 9, same farm, is under way as is No. 23 on the J. H. Arnett farm and No. 3 on the James M. Adams farm. Oliver Jenkins is drilling No. 8 on the Salyer heirs farm and Hupp, Duff and others are drilling No. 1 B. F. Whitt farm.

### Floyd-Knott Counties

In the Hueysville Field, District 21, the Ohio Fuel Oil Co. has a gas well in No. 5 on the Elkhorn Coal Co.'s tract. The Louisville Gas & Electric Co. also struck a nice gasser in No. 4 T. Martin farm and the Hope Construction & Refining Co. a gas well at its initial well on the Joe Hall lease. The Distill-Martin Oil & Gas Co. is drilling No. 1 on the John Ambargy farm. The Eastern Carbon Black Co.'s No. 4 on the Allen No. 1 farm, is reported a duster. The Midas Oil Co. is drilling No. 4 T. G. Martin farm and the New Domain Oil & Gas Co. is doing the same at No. 5 on the A. J. Allen farm.

### Estill County

In the Irvine Field of Estill County, a slight improvement is noticeable in field work. In District 7, C. O. Amsler and others' No. 13 on the Perry Hall farm, is a dry hole. R. Denton and others are drilling No. 11 D. N. Witt farm.

In District 8, the Reno Oil Co.'s No. 6 on the S. M. Maple farm, is estimated at 7 bbls. with No. 7 under way. Same company is drilling No. 8 Millard Ballard farm. The Superior Oil Corp.'s No. 1 on the E. Alexander, is reported dry, while its Nos. 7 and 8 Simp Horn farm, is at 8 bbls. each with No. 9 under way.

### Wayne County

Quietude prevails in the old Wayne County Field, one of the oldest in Kentucky. In District 2, of this county, the Vulcan Oil Co.'s No. 17 T. T. Davis, is a 3-bbl. pumper with No. 18 same farm, drilling. Bell, Bell and others' No. 3 Coffey Heirs, pumped but 1 bbl. B. S. Huffaker and others' No. 4 Huffaker farm, is a dry hole.

District 3 had but one completion reported, that being the Beaver Petroleum Co.'s No. 5 on the Kinney, Waddle & Gibson farm. D. C. Adkins is drilling No. 5 Burnett heirs farm.

In District 5, Abbott, Porter and others' No. 4 Coffey-Oatts farm, reported at 5 bbls.

In District 13, E. M. Taybe and others' No. 2 Melissa Fairchild farm, is a duster while W. R. Souther's test on the Nancy L. Jones heirs farm, proved one of the same kind, and No. 2 on this farm is drilling.

### Lee-Owsley Counties

Five completions are reported from

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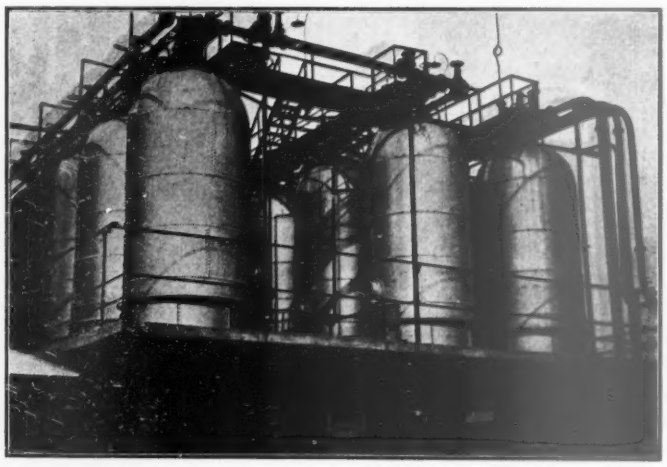

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the Lee-Owsley Counties, two being dry and three average producers.

In District 16, the Superior Oil Corp.'s No. 12 E. L. Rogers farm, reported at 10 bbls.

In District 18, the Fearless Oil & Gas Co. struck a duster at No. 4 on the P. L. Wadrer farm. The Ohio Oil Co. is drilling No. 82 Flahaven Land Co.'s tract, while Cook and others are working at No. 12 on the Wylie Bryant lease.

In District 35, Hupp, Duff and others' No. 14 Dave Mays farm, shows for a 10-bbl. pumper. C. M. Pudy's No. 2 McGuire heirs farm, is good for 3 bbls., while H. B. Sipple's No. 3 H. D. Parrish farm, is a duster. The Coombs Brothers Development Co. is drilling No. 3 on the Jack Evans farm.

### Other Developments

W. O. Dunham is drilling No. 5 well on the John A. Rogers farm, District 15, of Powell County.

In District 6 of Morgan-Johnson Counties, in the Ophir Field, the Popping Rock Oil Co.'s No. 1 on the T. L. Elam farm, is rated at 3 bbls. with No. 2 well under way. W. B. Sandifer, trustee, is drilling a test on the Lenox Sawmill Co.'s property, same district.

The Petroleum Exploration Co. is starting No. 13 on the Miller-Goff-Prewitt 600 acre big lease in the Torrent District 6 of Wolfe County.

In District 34 of Elliott County, the Edra Oil Co.'s No. 5 on the John Dials farm, is rated around 3 bbls. with this company drilling No. 3 on the J. F. Ison farm. In the Lincoln Creek area of the same county, J. M. McDonald is drilling No. 1 Joe Wagner farm.

No reports come from the Leatherwood districts of Menifee County where McKinney Brothers are working at No. 1 on the Widow Reed farm, and W. O. Back's No. 3 on the Hamp Rawlins farm.

The Standard Oil Co. of Kentucky is reported still plugging away at its deep test below 2,000 feet located 10 miles southwest of London, in Laurel County, and no reports are made from the same company's test on the Isaac farm, near McKee, in Jackson County.

The wildcat of the Foreman Lumber Co. on its own land on Stinking Creek, in Knox County, is still making hole slowly. Dizney & McKee are working at a test on the Dizney tract, at Bailey's Switch, in the same county, and no reports are forthcoming from the well being drilled by Beattyville, Ky., parties on Red Bird Creek, same county.

### Western Division

The western division of the Kentucky Field only furnished 21 completions for the week with 269 bbls. flush, 6 dry holes and 2 gas wells, but the most interesting wells were recorded from the area including the finding of a 7,000,000-foot gas well by R. A. Carpenter in a wildcat in advance of the Hiseville gas field and approximately 12 miles north of Glasgow, in Barren County on the Brit Wilson farm. Wells of this capacity are few and far between in the Blue Grass State and this means that there is somewhere in the immediate vicinity a nice oil pool that is yet virgin to the drill. The bringing in of this big gasser should bring out a large amount of new work in that area and may mean the drilling of tests farther north into Hart County, another likely spot for both oil and gas, and probably will awake the citizens of Horse Cave to do some testing around their busy little burg. The gas in the Wilson farm test struck its heavy gas flow just below the Yellow Cap Rock.

The Owensboro district of Hancock, Ohio and Daviess Counties, is in for an active amount of new work. The entrance of the Ohio Oil Co. into the field means much for its development, giving the field a company with an unlimited capital for development work.

### Barren County

In the Emery-Moore Pool, of Barren County, Fred C. Moore brought in a 25-bbl. flush well in his No. 10 on the Bruton farm, at a depth of 545 feet, or 11 feet of pay sand. Mr. Moore is drilling No. 12 on the Howard farm, same pool. Houchins Leasehold is drilling No. 14 Mayfield farm, and the Ruby Oil & Gas Co. is drilling No. 7 W. E. Steffey farm. Phil Kopel struck black shale from 251 to 299 feet in his No. 2 on the Wilson farm.

In the Oil City district, Lew J. Emery, Jr., Sons Co.'s No. 3 on the Burley Neeley farm, proved a duster and this company is drilling No. 1 on the Allen farm.

In the Gorby Pool Lew J. Emery, Jr., & Son's No. 5 Jim Jones farm, is showing for 10 bbls. with No. 6 almost due to strike pay sand. Hiland Oil & Gas Co.'s No. 1 W. D. Beals farm is in sand as is J. W. Porter's No. 18 McGlichlin farm, and Jacob Best, trustee's No. 5 Sanders farm.

In the Knob Road district, Ziegler Brothers' No. 5 C. D. Boyd farm, only 50 feet from where No. 4 on the same farm was recently abandoned on account of striking boulders, has been completed and reported at 25 bbls. from a depth of 380 feet. Star Oil & Gas Co.'s No. 6 Richardson farm, is showing 15 bbls. at 375 feet, with No. 7 drilling. In the same part of the field, Wiggins & Gillespie are drilling a second test on the Harrison farm. R. B. Tyler is drilling No. 8 White farm, where he recently finished No. 7 for 25 bbls. Ziegler Brothers are drilling No. 6 C. D. Boyd farm.

In the Lecta Pool, about 3 miles southeast from Glasgow and one of the most productive areas in the county, Coombs and others drilled a dry hole in a second test on the Grady farm. No. 1 produced 20 bbls. This is rather spotted territory as developments have shown up to the present. Norris Brothers drilled a duster at a test on the Pedigo farm. Esslinger Oil Co., pioneer company of the field, is drilling No. 8 C. B. Jones farm and Lew J. Emery, Jr., Sons are drilling No. 1 Bunch farm.

### Owensboro District

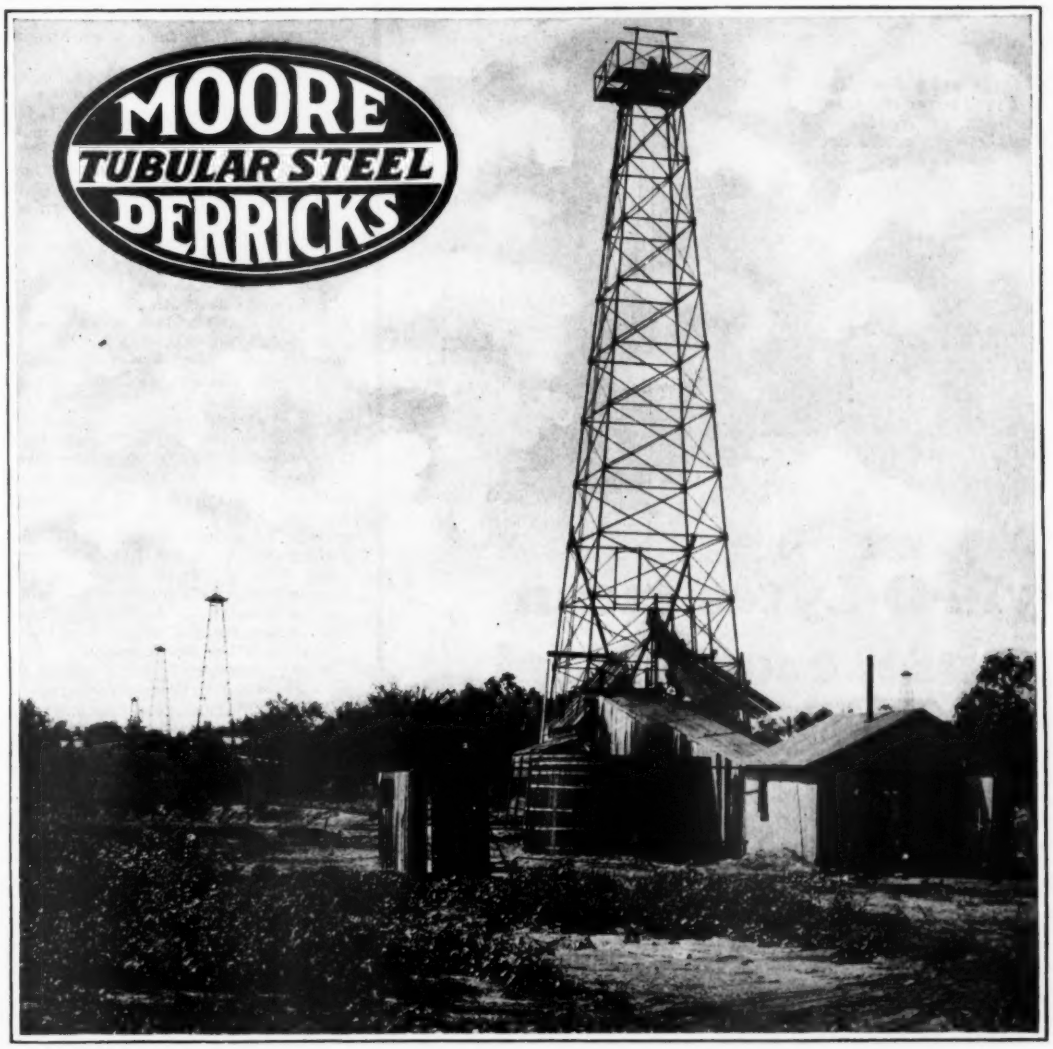
Where the limits of the producing territory in the Owensboro district of Hancock, Ohio-Daviess Counties will be remains to be seen but it looks as though the territory is hardly scratched by the drill. A number of years ago quite a lot of drilling was done not far from Hartford, the county seat of Ohio County. But a few small producers were uncovered and most of the investors left in disgust, among them a number of Toledo, Ohio, operators, who feel now as though they passed up a good thing.

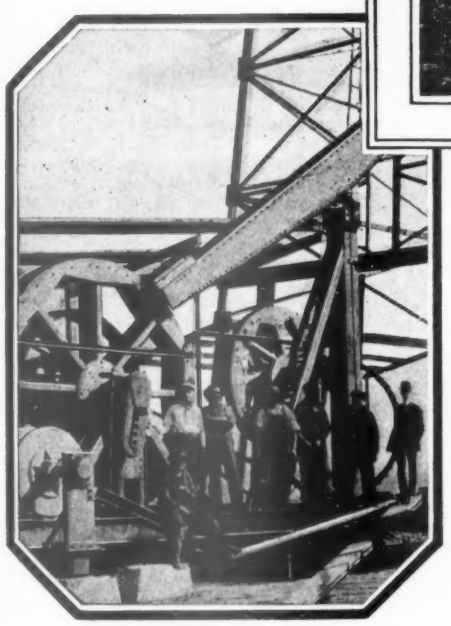
Quite general interest is manifested in oil circles of the three counties over the drilling of a well on the farm of J. T. Trogden, better known as Lune Trogden, 8 miles almost due south of Whitesville, in Ohio County, near Union Grove Church. Si Johnson and George Ingels, who are drilling the wildcat, at a depth of 335 feet struck a stray sand with an abundant flow of gas and nice showing of oil. This is not conclusive evidence of a producer of oil, but it indicates that oil will be found in that territory, which is several miles removed from the proven field. If it should prove to be a commercial producer, it will open a large territory for exploitation. Geologists express the opinion that oil will be found in that locality as far south as Rough River.

The Ohio Oil Co. has started a test in the northeast corner of the J. R. Ellis 300 acres, 3½ miles southwest of the Midkiff Pool, and in Daviess County. A rig has been set on the Anbrose farm. Miller & Damron have contracted with the big company for the drilling of a number of tests. The Ohio Co. has secured holdings in both Daviess and Ohio Counties.

The Chicago Petroleum Syndicate's No. 6 on the Guenther-Gant 270 acres, is reported at 25 bbls. from the Barlow sand and nearing pay sand with No. 7 same farm. Same company is drilling No. 2 on the Nannie J. Brown farm, which is an offset to No. 3 on the J. L. Phillips farm, where the Penn-Indiana Oil Co. recently completed No. 3 Phillips for 20 bbls.

The Victor Oil Co. drilled in its No. 8 on the O. T. Burdette recently purchased from White & Nicklin and it is a 5-bbl. pumper from the Barlow sand.



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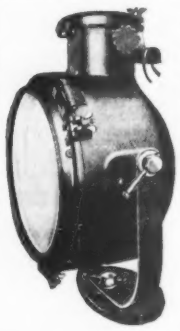

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No. 9 is starting up on the same farm and 25 feet east of No. 1.

The Dearborn Oil Co.'s No. 2 on the C. A. Leeper 89 acres and in the northeast corner of the farm is credited with 5 bbls.

The White Plains Oil & Gas Co.'s No. 2 on the Joe Bob Ellis 50 acres on the south and 400 feet west of No. 1, found a Jett sand pay at 435 feet and making a nice showing.

J. W. Loman, attorney, who has a lease of 50 acres of the Joe Bob Ellis farm, north of the railroad and an offset to the White Plains Co.'s No. 1, also on the Ellis, is also making a good showing in the Jett sand.

The White Plains Oil & Gas Co.'s No. 4 on the J. J. Midkiff farm, was dry in the Jett sand and drilling to the Barlow sand. The Wood Oil Co.'s No. 1 on the Drane-Owen 50 acres was also dry in the Jett and going down to the Barlow sand.

C. E. Daugherty and others are starting a test on the W. T. and Ernest Bickett farm, where they will carry a three-eighths interest for Walter Johnson and Patton, holders of the lease. C. A. Leeper is starting No. 4 on the Taylor fee 16 acres. Penn.-Indiana Oil Syndicate is drilling No. 7 on the Laura Mercer 84 acres, being a location from Nos. 1 and 5 same farm. This company is also drilling No. 4 on the J. L. Phillips 82 acres and 20 feet south of No. 3.

**Other Developments**

A very important well has been completed in Clinton County eastward from Cumberland County, that may mean much for the future of Clinton County which has at numerous times failed to show commercial production in wells. The new find was made by the Clinton Oil Co. on the J. Upchurch farm and reported at around 50 bbls. at a depth of 525 feet and in the second Sunnybrook sand.

In Green County a gas well is reported completed by the United Carbon Co. on the Tucker farm. In Hopkins County advice is that the Copper Flash Oil Co. has an 8-bbl. well at No. 14 on the Holleman farm, in the Nortonville Field.

The best Kentucky completion for the week was that made by the Oil Fork Development Co. in a test on the J. Finley farm, in Williams Prong of the Sulphur Creek district, which was completed at a total depth of 462 feet and estimated better than 100 bbls. The pay comes from the first Sunnybrook found at 440 feet. The Baird & Hickman gusher reported last week at 750 bbls., struck the Pencil Cave at 606 feet and sand at 740 to 753 feet, or 147 feet below the Cave and the first well in the Hopewell Pool of the Crocus Creek district to be drilled below the Cave.

In the Bowling Green Field of Warren County, Brand & Henderson's No. 6 J. H. Morgan is reported at 5 bbls. and the Zev Oil Co.'s No. 4 Savage at around 3 bbls. Doctor Cauble, attorney, drilled in No. 1 J. T. Vance for a dry hole at 400 feet and Hogan and others drilled one of the same kind at a test on the Vic Chaney farm, at 725 feet. Onsel Brothers and others are drilling No. 8 on the C. G. Davenport 50 acres, Section 78. T. A. Sheridan is drilling No. 6 Georgianna Davenport, while A. F. Bannon is working at his No. 18 Charles Cox farm.

In the Scottsville Field, of Allen County, Fred W. Owen's No. 16 A. A. Davenport farm, is credited with 1 bbl. at 380 feet. The Citizens Oil Co.'s No. 18 I. K. Rickman farm is a dry hole. The Helka Development Co. is drilling No. 9 Effie Sanders farm.

## CENTRAL WEST

(Continued from Page 60)

wildcat drilling campaign in the Princeton District. This well-known firm made a location for a test on the M. M. Conrad farm, Section 10, Barton Township, Gibson County and is drilling a test on the Joseph Armstrong farm, in Lot 108 Washington Township, same county.

Skidmore, trustee, is starting Nos. 2 and 3 on the Walter Miley farm, Section 14, Logan Township, Pike County, where he recently drilled in a 70-bbl. producer at a total depth of 1,427 feet. W. Darby and others are drilling a test on the G. Stewart farm, Section 23, same township.

**Illinois**

The Mt. Carmel Oil Co.'s No. 5 well in the northwest corner of the F. M. Leake farm, Section 1, Wabash Township, Wabash County and in the Allendale Field, is reported to have produced 200 bbls. the first 24 hours, while to the north a mile Joe S. Young Jr. and others encountered a duster in the northwest corner of the C. C. Clark 34 acres in the southwest quarter of Section 36, same township, at a depth of 1,596 feet. This firm is starting No. 3 on the E. Alka Heirs farm, Section 1, which is within the former gusher territory of the pool. The Cisil Heirs Oil Co.'s No. 3 in the southwest corner of the Cisil Heirs farm, in the southwest quarter of Section 1, is reported at 15 bbls. Top of sand at 1,538 feet and drilled 12 feet in the sand. Joe S. Young Jr. and others are drilling a second well on the J. G. Trimble farm, Section 35, and Snowden & McSweeney are drilling their first venture on the J. G. Trimble farm, same section. Eastern Gulf Oil Co. is drilling No. 3 Jesse Cisil farm, Section 2, and the Adams Corner Oil Co., is drilling No. 6 J. T. Smith, Section 22.

In Friendsville Township, Wabash County, J. S. Young Jr. and others second well 200 feet from the south line and 800 from the west line of the J. W. Price farm, in the southwest quarter of Section 19, is a dry hole at 1,600 feet only a short distance west and north of the Bass farm wells, the discovery well of the Bass Pool. To the north and east several miles from the Bass farm, W. M. Ball and others are drilling No. 2 H. C. Yelton farm, Section 5, same township.

The test well drilling by Bell Bros., on the P. R. Fisher farm, Section 6, Belmont Township, Wabash County, 10 miles south and 4 miles west of the Bass well, is being watched with much interest being such a long distance from commercial production. Another important well still farther to the southwest is the Grayville Oil Syndicate's test on the J. M. Helm farm, in French Creek Precinct, two miles northwest of Grayville, in Edwards County, which is getting down toward the spot where sand should be discovered.

In Martinsville Township, Clark County, the Ohio Oil Co.'s No. 4 near the southwest corner of the A. W. Cavolt farm, Section 31, pumped 30 bbls. at 1,481 feet. The Mahutska Oil Co., is drilling No. 4 on the M. J. McClelland, Section 30, same township, and the Terre Haute Oil Co., is drilling No. 2 on the Chas. McFarland heirs, Section 19. In Casey Township, the Trenton Rock Oil and Gas Co., is drilling a test on the W. L. Slater, Section 25. In Johnson Township, the Ohio Oil Co. is drilling No. 6 C. H. Riggs, Section 26 and the Southern Oil Co. is drilling No. 33 C. O. Gross, No. 2 farm, Section 23.

In Robinson Township, Crawford County, the Canadian Oil and Gas Co.'s No. 16 E. E. Newlin farm, Section 16 pumped 5 bbls. at around 920 feet. McNally and others are drilling No. 1 Harry E. Ottey farm, Section 33, same township.

In Centralia Township, Marion County, the Petro Oil and Gas Co. is drilling Nos. 8 and 9 on the A. W. Webster, Section 30.

In Grandville Township, Jasper County, Wimsett and others' No. 1 M. Ritter, Section 4, proved a dry hole.

Shroder and others are drilling a test on the Luther Houghton farm, Section 2, Ashmore Township, Coles County.

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| 15½ | 14½ | 14 ft. | 19'6" | 3230 | 4x5-7 | 4x5-7 |
| 20 | 18½ | 11 ft. | 16'6" | 3500 | 4x5-7 | 4x5-7 |
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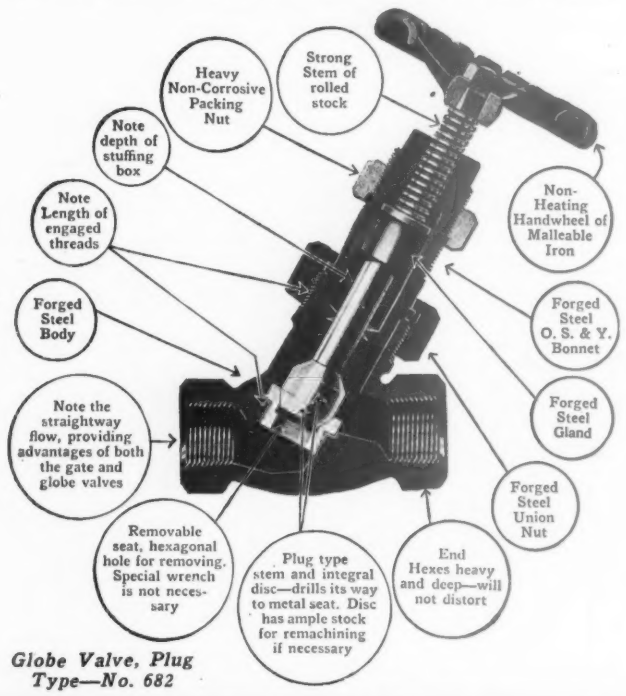
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*Globe Valve, Plug Type—No. 682*


# RUSSIAN OIL TRUST IS PLANNING PIPELINE, REFINERY AND TANKERS

By N. O. Fanning

*New York Bureau, The Oil and Gas Journal, Room 543, 30 Church St., New York*

NEW YORK, July 5.—Plans of the All-Russian Oil Trust call for pipeline, refinery and tanker construction which can be expected to place the Russian oil industry on a footing never before equalled, even during the prewar era of prosperity, when the production of the country ran between 70,000,000 and 80,000,000 bbls. a year. The keynote of the plans lies is connecting the principal fields with Black Sea ports by means of additional pipelines. Refining capacity is to be increased at Batoum, the present leading Black Sea oil port, and a new plant to be constructed at Tuapse, a new oil port which is under construction. These plans, it was revealed to the writer by Boris Skoundin, chief engineer pertaining to petroleum of the port of Novorossiysk, who is now in this country, are already being carried into effect. Mr. Skoundin's visit was in part for the purpose of studying new methods relating to pipeline, refinery and terminal construction.

The Black Sea is the only open water route from the Russian oil district to the principal markets for Russian oil, namely the Near East and Europe. The leading Russian oil fields lie between the Black Sea and the Caspian Sea, 400 to 700 miles from the former.

The Baku Field, now the largest producing field of Russia, is on the Caspian Sea, but is connected with the port of Batoum, on the Black Sea, by means of an 8-inch pipeline which carries only kerosene. This was the first pipeline constructed since the war, during which the oil industry suffered a tremendous loss, including destruction of wells, pipelines and refineries. Batoum is the logical Black Sea outlet for Baku oil, and the growth in production of that field now calls for additional transportation facilities. It is therefore proposed to construct a new 10-inch pipeline from Baku to Batoum to handle crude petroleum. In addition, a refinery will be constructed at Batoum, where products will be refined for the export trade.

### New Outlet for Grozny

The Grozny oil field is the second largest in Russia. Output for the year ended July, 1927, is estimated by Mr. Skoundin at 18,000,000 to 20,000,000 bbls., the largest in its history. Grozny is approximately 400 miles from the Black Sea. A new 10-inch pipeline has been started which will run from Grozny to Tuapse.

The program for giving the Grozny Field an outlet to the Black Sea is looked upon with especial importance by the Russian oil interest, because of the large gasoline yield of the oil as compared with Baku crude oil. Grozny crude yields 25 per cent gasoline through ordinary refining, as against 5 per cent for Baku crude, which is valuable largely for its lubricating oil, gas and fuel oil content.

The refinery at Tuapse will handle Grozny crude and is expected to provide at least 2,500,000 bbls. of gasoline a year for export, besides the usual other run of products.

The Gronzy-Tuapse line will have the most modern features, Mr. Skoundin explained, including the latest type of Diesel engines at pumping stations, and probably welded joints throughout. In order to make the line as straight as possible, it will have to cross a mountain with an elevation of 1,500 feet, although the Grozny Field is only 300 feet above sea level. The nature of the country traversed, however, is not particularly difficult for pipeline construction.

### Tuapse As Oil Port

The port through which most Gronzy oil is shipped for export at the present time is Novorossiysk, but tank car transportation has proved wasteful and railroad facilities inadequate to care for the growing production.

The development of Tuapse, on the Black Sea, as a leading oil port is, of course, linked with that of the Grozny Field, but geologists are extremely sanguine as to the latter. The choice of Tuapse over Novorossiysk by Russian engineers is due, first, to the fact that the former is nearer Grozny by 75 miles, secondly, to the fact that Tuapse offers a better site for a refinery, and, thirdly, because the topography lends itself more advantageously to the construction of storage and sea-loading facilities.

The storage facilities at Tuapse will consist of steel tankage with aggregate capacity of 5,000,000 bbls. of oil. It is planned to build the pipeline and refinery simultaneously, and it is expected that the entire work will be completed within three years.

### Russia Building Tankers

As the last step in putting Russia on the oil map as a formidable competitor in the Near East and European markets, a large tanker fleet is being provided. There are three ships now. Another is being raised from the bottom of the harbor of Novorossiysk, where it was sunk in 1918.

Eight additional tankers are now under construction, five in French yards and three in Russia. They are of the latest type, equipped with Diesel engines, and are 8,000 to 10,000 tons each.

Mr. Skoundin has visited California, the Gulf Coast and Atlantic Seaboard, studying particularly the latest methods used in this country in pipeline, refinery tank and sea-terminal construction. He was strongly impressed with the oil industry, noting especially the gigantic scale on which operations are carried on compared with those in Europe.

He described the new pipeline of the Pan American Western Petroleum Corp. in California, and the sea-terminal facilities of that company, as the best in the world, remarking the use of Diesel engines at pumping stations, of which there are three at each station; also the use of welded joints entirely, and the complete electrification of the sea loading terminal.

The port of San Pedro had the biggest oil wharf in the world, he said. About 36 hose connections are in existence there, with pumping and other apparatus which made possible the loading of four to five tankers of 12,000 to 15,000 tons each, per day. One of the largest tankers could be loaded in between six and seven hours.

## ESTIMATE BARNSDALL EARNINGS

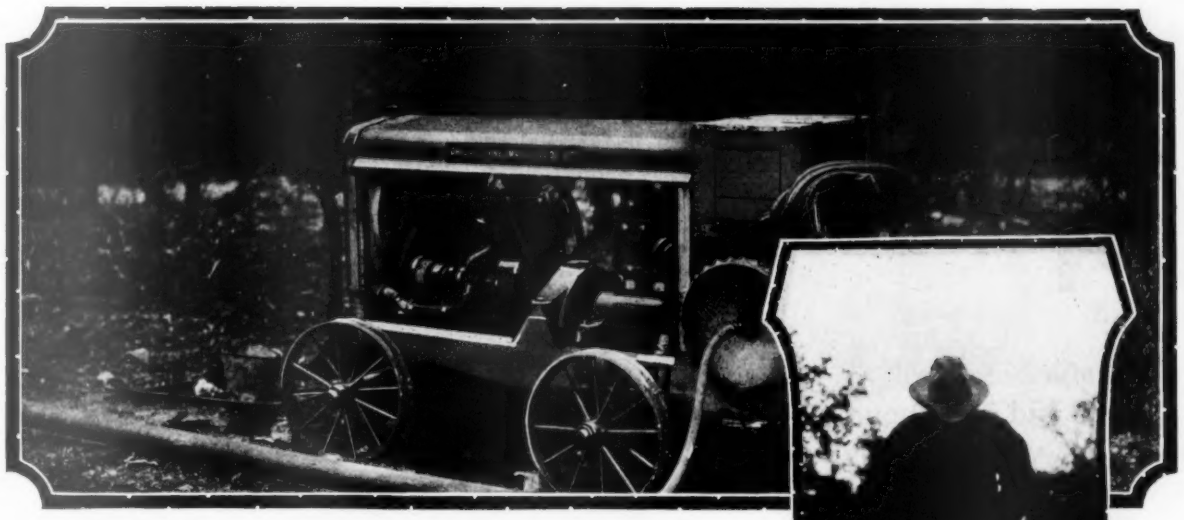
Final figures showing the earnings of the Barnsdall Corp. and its subsidiaries for the first half of 1926 will not be completed until the latter part of July, but President E. B. Reeser announces that with five months actual, and June estimated, the results will be about as follows:

| | *First Half 1926 | First Half 1925 |
|---|---|---|
| Net oper. inc. | $5,958,964.93 | $2,286,740.62 |
| Less: Int., taxes, depr., and depl. | 2,808,784.68 | 1,060,644.86 |
| Net income | $3,150,180.25 | $1,226,095.76 |
| Dividends paid | 1,137,561.00 | † |
| Balance | $2,012,619.25 | $1,226,095.76 |
| Net earn. per share on outstnd. stock | $2.77 | $1.34 |

*June estimated. †No dividends paid.

## CITIES SERVICE SALES

The Empire Refineries, Inc., Cities Service Refining Co. and the Crew-Levick Co., subsidiaries of Cities Service Co., shipped in the first five months of 1926 21,105 carloads of petroleum products. The same period of 1925 they shipped 15,135 carloads, an increase of 38.02 per cent. These products moved to 42 states of the Union, to Canada, Cuba and through Louisiana and Philadelphia for export to Europe and South America.



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Comparing the cost using CP equipment as against former hand methods, each 10 miles of trench excavated with CP products saved the cost of each unit (Compressor and Rock Drill). On the whole 600 miles the cost of the entire equipment was saved ten times.

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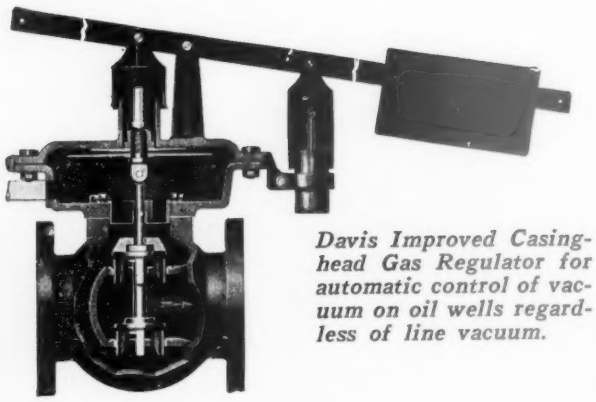

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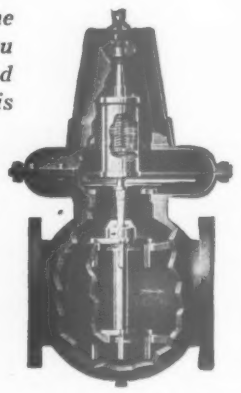

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# MOSUL OIL FIELD CONTROVERSY SETTLED BY TURKISH-IRAQ TREATY

By Charles E. Kern
*Washington Bureau, The Oil and Gas Journal*

WASHINGTON, D. C., July 3.—The Turkey-Iraq boundary treaty intended to settle disputes relating to the Mosul oil fields is summarized by Rear Admiral Mark L. Bristol in a cabled report to the Department of State. Rear Admiral Bristol is acting as American High Commissioner in Constantinople.

Representatives of Great Britian and Turkey and Iraq (the Mesopotamian-Arab state under British mandate), signed this treaty at Angora, at midnight, June 5-6 and it was ratified by the Grand National Assembly of Turkey on June 8, according to these cabled advices to the State Department.

This treaty settles three disputed questions: (1) the northern boundary of Iraq, (2) the security of the frontier and (3) the Turkish claims to the Mosul oil fields, which are now under a 75-year concession from Iraq to the Turkish Petroleum Co., in which American interests are to have a 25 per cent share.

**Text of Treaty**

The full text of the cabled summary of the treaty, as received at the Department of State, follows:

"1. Turkey accepts the geographical (Brussels) line as the frontier, except that the road connecting the villages of Escho and Almoun, lying across Iraq territory, will be left in Turkish territory.

"2. A commission of delimination is to be appointed, composed of Turkish, British and Iraq representatives with a president of Swiss nationality.

"3. Mutual suppression by Turkey and Iraq of brigandage and pillage in the frontier zone, and prevention of armed bands crossing the frontier. This applies to a zone 75 kilometers wide on both sides of the frontier line.

"4. Security provisions are to remain in effect for 10 years from the date of the treaty going into force.

"5. Iraq cedes to Turkey 10 per cent of the revenues accruing to the former from the Turkish Petroleum Co., from private societies devoting themselves to the extraction of oil and from auxiliary societies formed in accordance with Article 33 of the Turkish Petroleum Co. concessionary agreement. (Article 33 refers to subsidiary concessionaries.)

"6. Conclusion of an extradition treaty.

"7. An exchange of notes between the three plenipotentiaries forms part of the main treaty and provides for the payment by Iraq to Turkey of 500,000 pounds sterling within 12 months should the Turkish Government desire to capitalize its share of the oil royalties referred to in paragraph 5 above."

**American Interest**

The new treaty has no direct relation to the recent agreement between American and British, French and Dutch interests for the right of each to a one-fourth share of the Turkish Petroleum Co., according to information available at the Department of State. The American group, which includes the Standard Oil Co. of New Jersey, the Standard Oil Co. of New York, the Gulf, the Pan American and the Atlantic Refining companies, came to agreement in London last April with the British, French and Dutch interests, already represented in the Turkish Petroleum Co., with arrangements yet to be made with Calouste Sarkis Gulbenkian, the Armenian capitalist who holds a 5 per cent beneficiary interest in the company. It was arranged that crude oil should be taken out and divided between the companies and adequate compensation is to be made to Mr. Gulbenkian. These agreements are being concluded without reference to the treaty which has just been signed.

Under the treaty, as summarized above, Turkey waives its claim to any rights it may have possessed to give oil concessions of its own in the former Turkish territory of Mosul. The Iraq concession now held by the Turkish Petroleum Co. thereby relieved from any possible conflict which might have arisen out of the fact that Turkey was not bound, not being a member of the League of Nations, by the league council's previous demarcation of the frontier line.

**Settles Old Dispute**

The present treaty is actually a confirmation by Turkey of the boundary line set by the council, the background of which, as obtained from data in the Department of State, goes back to the Kemalist coup in Turkey in 1919.

In the Turkish Nationalist Pact of January 28, 1920, following the Kemalist coup, the Turks declared themselves as irrevocably opposed to any boundary with Iraq which was north of a line running from Alexandretta to the south of Mosul.

The negotiation of the allied treaty of Lausanne, signed by the allied and associated powers and Turkey on July 24, 1924, turned, in part, on the settlement of the frontier of Iraq and as finally agreed upon, provided that this question should be settled between Turkey and Great Britain within nine months or should then go to the council of the League of Nations, both Great Britain and Turkey meanwhile respecting the status quo.

The British and Turks failed to reach an agreement on the Turkish-Iraq boundary, and on September 30, 1924, the council of the league took up the question. On October 27, at Brussels, the council set a provisional line, thenceforth called the "Brussels line," as a tentative international boundary. This line follows geographical contours and with the exception of the road conceded to Turkey, has now been accepted in principle as the boundary between the two countries.

A commission of investigation sent to Mosul by the council of the league recommended, on July 16, 1925, that if the territory south of the Brussels line was to be finally allocated to Iraq, the British mandate over Iraq should in the interest of peace and stability be made effective for 25 years. The council then called upon the Permanent Court of International Justice at The Hague to determine how far the council could go in maging its decision.

**World Court Decision**

The court determined, on November 21, 1925, that the council's decision, if unanimous (the votes of the interested parties not being counted in determining unanimity) would be binding upon all parties in the determination of a definite frontier between Turkey and Iraq.

On December 16, 1925, the council of the league made its decision, which in principle fixed the Brussels line as the boundary, providing Great Britain should be able to conclude with Iraq a treaty providing for the continuance of the mandatory regime for 25 years. This treaty was accordingly signed in Bagdad on January 23, 1926, and on March 11 the council of the League of Nations made definite its decision of December 16, 1925, fixing the Brussels line as the frontier.

In the meantime, however, Turkey had opposed the proceedings regarding this matter in both the league and The Hague Court and indicated its determination not to recognize their decisions. The league's ruling was binding on Great Britain, as a member of the league, but not on Turkey, which was not a member. Practically, the Brussels line was in effect, but for reasons of policy and the security of the Near East, Turkey's consent was needed.

This consent has now been obtained through the negotiations which resulted in the treaty signed June 5-6 at Angora. The settlement both established the Brussels line for Iraq and also gave a satisfactory concession to Turkey, in the matter of the road between two border villages. It gave both Iraq and Turkey

THE CONTINENTAL SUPPLY COMPANY
Madison, Kans. April 6th, 1926.

Mr. John T. Dillon, President,
The Titusville Iron Works Co.,
Titusville, Pa.

Dear Sir:-

At the suggestion of Mr. John Butler, we are enclosing two pictures, one of a derrick and another of the drilling crew on the well.

This well is C. W. Titus, Inc., #12 on the Prather Farm in section 22-22-10 Greenwood County. The contractor was Mr. E. P. (Smoke) Lewis, and the farm-hose was Leo Wood. Both of these men speak very highly of the 35 H.P. TICO Gas Engine, with which the well was drilled, and to prove this is the fact that they now have ten (10) 35 H.P. TICOS on their lease.

The above well was drilled 2,300' in exactly 22 days running time, which is the best known time in this field, for either steam, gas or oil engines or motors. 8-1/4" and 2,300' of 6-5/8". In addition to this, these people had their usual share of fishing jobs on the well, which the engine handled in excellent shape.

The men in the picture, reading from left to right, are D. M. Cunningham, Toolpresser, Harry Simons, Driller, Mel Yoho, Driller and W. F. Ackley, Toolpresser.

Trusting that this information will be of service to you, we beg to remain

Very truly yours,
THE CONTINENTAL SUPPLY COMPANY
(Signed)
R. H. Dingee,
Manager.

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valuable assurances of security by its provision for the continuance of the demilitarized zone and its extension to 75 kilometers in either side of the frontier.

The provision against the passage of armed bands into Turkey from Iraq will aid in preventing Kurdish raids against Turkish villages. The settlement of the Mosul oil question in terms of money provides a new source of revenue for Turkey, in return for its surrender of the right to give Turkish concessions to Mosul oil properties, which might otherwise be granted and cause serious international controversies.

## AMERICANS WAITING ON TURKISH COMPANY

NEW YORK, July 3.—Plans for the organization of an American holding company through which the Standard Oil Co. of New Jersey, the Standard Oil Co. of New York, the Pan-American Petroleum and Transport Co., the Atlantic Refining Co. and the Gulf Refining Co. will participate in the development of the Mosul oil fields are being delayed until difficulties in connection with the operation of the Turkish Petroleum Co., the parent organization, are removed.

The American group will have a 25 per cent stock interest in the Turkish company. George H. Jones, chairman of the board of the Standard Oil Co. of New Jersey, which has taken the lead in the arrangements for American participation, said that nothing further looking to the actual exploitation of the Mosul oil fields could be done until the Turkish Petroleum Co. had perfected certain arrangements which he did not feel at liberty to discuss.

It was understood, however, that the Turkish Petroleum Co.'s agreement with C. S. Gulbenkian, Armenian capitalist, who has been an obstacle so far as American participation in the project is concerned, had not been completed, although it was generally believed he had agreed to accept a 5 per cent royalty and relinquish any plan which he might have had of sharing in the actual management of the company.

Nothing has occurred, it was understood, which might threaten the success of the undertaking, but the plans have not been developed as rapidly as had been expected.

Besides the American group three international combinations are interested in the Turkish Petroleum Co. These are the Anglo-Persian, a British governmental group; the Royal Dutch-Shell and a French group.

## GASOLINE RECOVERY FROM TEAPOT DOME

CASPER, Wyo., July 3.—A conference was held at Cheyenne between representatives of the New York Oil Co., Mammoth Oil Co. and the United States Navy to determine what measures should be taken to secure a more efficient recovery of gasoline from the casinghead gas of the Teapot Dome Field. The New York company has been taking the gas through a contract with the Mammoth company and extracting the gasoline by the compression method.

It is believed that a more efficient method can be developed to handle the gas and representatives of the companies concerned and the Navy which has a royalty interest in the Teapot Dome development recently visited the Mid-Continent Field inspecting plants in that area. It is expected a decision will be made in the near future as to the type of plant best suited to Teapot Dome operating conditions.

### MEXICAN OIL TAX GROWS

The Mexican treasury department announces that petroleum tax receipts for May exceeded those of any month of the present year, being $2,717,073.19 on production and $1,114,899.20 on exportation of oil. This increase, it is said, is due to intensified exploitation which the Huasteca Petroleum Co. has made of its wells.

## Oil of 84 Degrees Specific Gravity on Coast of Black Sea

The Taman Peninsula, on the north coast of the Black Sea and at the entrance to the Sea of Azov, resembles the Surachany district in geological formation, and in both places the petroleum to be found does not lie very deep, and it may be confidently assumed, says a Russian report, that the riches in petroleum there, as yet unbroached, exceed those of Transkuban several times. The Taman petroleum, which is produced at 3 to 4 arschins (84 to 112 inches) depth, possesses a specific gravity of 0.810 to 0.840, which places it in the category of high-quality petroleums. Borings in the farms of the former Count Kankrin, in Staro Titorovsk, disclosed a specially fine petroleum. Here were found several contributions of a light green petroleum rich in gasoline—white petroleum. These wells are still in the prospecting stage. By boring below 60 sazhens (420 feet) a benziniferous petroleum was found of 0.720 specific gravity, and for want of reservoirs the petroleum evaporated. At a comparatively shallow depth 200 poods (or about 2.4 bbls.) of petroleum can be obtained here per day. Results obtained hitherto show that the district contains rich deposits of petroleum of various properties, but generally of high quality. Meantime, this petroleum is being produced by the Koppar Trust in a primitive way, and in very small quantities—about 150 to 200 poods per day (less than 2.5 bbls.). But the trust named hopes in the course of this year, if sufficient funds are provided, to raise the output to 100,000 poods (about 1,200 bbls.) per day, which would by no means exhaust the possibilities of the local deposits, says a correspondent of a Moscow journal.

### MAY DRILL IN ZUNI DISTRICT

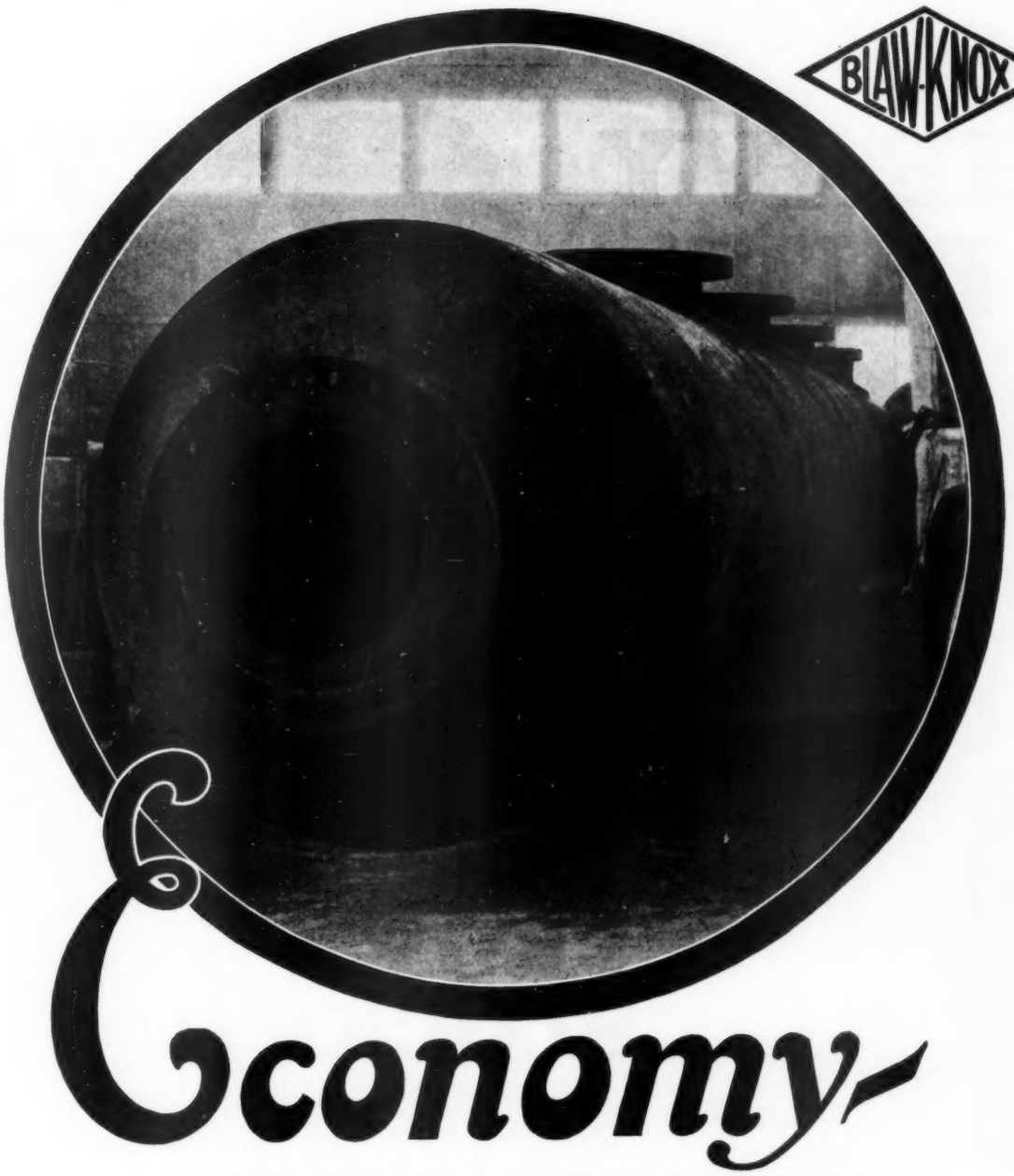
WASHINGTON, D. C., July 3.—A bill to extend the oil leasing act to the Zuni district of the Manzano National Forest has been passed by the Senate and is pending before the House Committee on Public Lands. Being in both a national forest and a military reservation, legislation is necessary. Every alternate (odd) section is in private ownership, while the even-numbered sections belong to the military reservation. The private owners who desire to drill on their own property will be confronted with the situation, if they own more than one alternate section, of being embarrassed in not being able to develop the intervening section or sections, subject to the provisions of the general leasing act. There has been no drilling in this vicinity, there not being an oil well within a distance of 125 miles, and there are no more indications of oil being found than in numerous other places in New Mexico.

### PAPUAN DRILLING STOPPED

A Melbourne dispatch states that the Australian Premier announced that Anglo-Persian Oil Co., Ltd., had been engaged for six years in exploring for oil in Papua on behalf of the Australian Federal Government, and that favorable indications of oil had been discovered, but owing to difficulties drilling was suspended. The question of resuming drilling is under consideration. Cost of operations totaled £250,000, of which the British Government contributed £25,000.

### J. A. COLLOPY DIES SUDDENLY

James W. Collopy, oil operator, whose home was in Jamestown, N. Y., but who operated from Tulsa, died suddenly in Muskogee, Okla., on Tuesday, June 29, while engaged in conversation with John A. Connolly, another oil man. The body was shipped to Jamestown for funeral and burial. Mr. Collopy had been engaged in the oil business for 30 years. He was 67 years of age.

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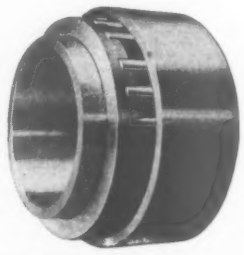
# HEAVY DUTY  TYPE "C"

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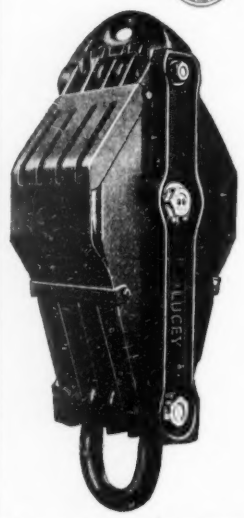

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The Standardized Bearing of the Oil Industry

NO WEIGHT TOO GREAT
AMERICAN
HEAVY DUTY TYPE "C"

## KANSAS FIELDS

(Continued from Page 42)

Petroleum Co. have a rig on the ground for No. 10 Craft, NE cor. SW SW, Section 25-23-8. The rig is up for No. 3 Scott, NE cor. NW SE, Section 25-23-8. No. 1, SW cor. NW NE, Section 3-23-9, is drilling at 350 feet. Skelly Oil Co. has the rig up for No. 7 Teeter, NE cor. SW NE, Section 15-23-9. The rig is on the ground for No. 4 Teeter, NW cor. NW, Section 15-23-9. Empire Gas & Fuel Co. has rigged up No. 35 Teeter, SE cor. SE, Section 16-23-9. Manhattan Oil Co.'s No. 7, SE cor. SW, Section 19-23-9, is drilling at 850 feet. White Eagle Oil Co. and others have the rig up for No. 2-A Norman, NW cor. SE SE, Section 19-23-9. Syndicate Oil Co. has spudded No. 3, NW cor. SW SW, Section 1-22-10. No. 1, SE cor. SE, Section 2-22-10, had sand at 2,013-88 feet with a total depth of 2,049 feet. After a shot of 28 quarts it swabbed 240 bbls. No. 2, NE cor. SE SE, Section 2-22-10, is spudded. Empire Gas & Fuel Co. is drilling at 350 feet in No. 10, SW cor. SE NW, Section 6-22-10. Mid-Kansas Oil Co. has spudded No. 5, SW cor. NW NW, Section 8-22-10.

Theta Oil Co. has rigged up No. 13 Pixlee, SE cor. NE SW, Section 8-22-10. Hazlett and others' No. 18, SW cor. NW SE, Section 12-22-10, had broken sand at 2,067-2,169 feet and made 150 bbls. after a shot of 350 quarts. Sinclair Oil & Gas Co.'s No. 42, C SW SW, Section 20-22-10, had sand at 2,295-2,309 feet and made 20 bbls. after a shot of 10 quarts. No. 43, C SE SW, Section 20-22-10, is drilling at 960 feet. No. 44, C SE SE, Section 19-22-10, is spudded. The rig is up for No. 45 Browning, C south half south half SW, Section 20-22-10. The Texas Company is drilling at 1,060 feet in No. 10, C west half SW, Section 29-22-10. Chris Sheedy and others have completed No. 8, NE, cor. SW NW, Section 11-23-9, for 130 bbls. after a shot of 80 quarts in sand at 2,315-47 feet. Rhodes & Able have spudded No. 1, NE cor. SW, Section 25-23-9. Empire Gas & Fuel has the rig up for No. 4 Thrall, NE cor. SE SW, Section 29-23-10. Orlando and others have spudded No. 1, NE cor. NW, Section 9-22-11. Empire Gas & Fuel Co.'s No. 13, NW cor. SE SE, Section 11-22-11, had sand at 1,824-89 feet and made 220 bbls. after a shot of 200 quarts. The rig is up for No. 6 Duby, NW cor. SW SW, Section 14-22-11. No. 10 Fromm, NW cor. SE NW, Section 14-22-11, is drilling at 650 feet. No. 8, NE cor. SW NW, Section 14-22-11, is drilling at 830 feet. The rig is up for No. 14 Kipfer, SW cor. NW SE, Section 11-22-11.

Mid-Continent Petroleum Corp.'s No. 10, NE cor. SW SW, Section 18-22-11, swabbed 65 bbls. from sand at 2,046-71 feet and will be shot. G. F. O'Neill and others have a rig on the ground for No. 1 Ingram, NE cor. NW NW, Section 29-22-11.

York State Oil Co. is drilling at 450 feet in No. 8 DeMalhourie, SW cor. NE SW, Section 32-22-11. Phillips Petroleum Co.'s No. 8, NW cor. SW, Section 33-22-11, had sand at 1,897-1,937 feet, and made 65 bbls. after a shot of 120 quarts. Empire Gas & Fuel Co.'s No. 2, NW cor. SW SE, Section 4-22-12, had sand at 1,782-1,824 feet and swabbed 470 bbls. after a shot of 140 quarts. Empire Gas & Fuel Co. has the rig up for No. 4 Frankhouser, NW cor. SE SE, Section 4-22-12. Fisher & Louck are drilling at 750 feet in No. 4, SE cor. SW NW, Section 4-22-12. Simmons and others' No. 6, NE cor. SE NW, Section 4-22-12, is drilling at 1,450 feet. The rig is up for No. 2 Frankhouser, NE cor. SW NE, Section 4-22-12. No. 8, SE cor. NW SE, Section 4-22-12, had sand at 1,802-33 feet and made 150 bbls. after a shot of 140 quarts. No. 15 Frankhouser, SW cor. NE SE, Section 4-22-12, is rigged up. The rig is on the ground for No. 1 Holderman, NW cor. NE, Section 9-22-12. Manhattan Oil Co. and others are drilling at 1,700 feet in No. 1 Williams, SW cor. NE NW, Section 16-23-11. Darby and others' No. 1, NE cor. NE, Section 17-23-11, had sand at 1,956-2,024 feet with the first oil at 1,960 feet. It was shot with 250 quarts and made 150 bbls. Mid-Continent Petroleum Corp.'s No. 1, SE cor. NW, Section 26-23-11, is drilling at 750 feet. Skelly Oil Co. and others have a rig on the ground for No. 1 Wilson, NE cor. SW, Section 29-23-11. Braden Brothers have spudded No. 6, NW cor. NE NE, Section 27-22-13. Theta Oil Co.'s No. 13 Schneider, C SW SW, Section 10-23-13, is making two bailers of oil an hour from sand touched at 1,989 feet. Mid-Continent Petroleum Corp.'s No. 9, C NW SW, Section 15-23-13, had sand at 1,590-1,651 feet and is estimated at 10 bbls. It will be shot. No. 6, SE cor. NW NE, Section 28-23-13, is shut down at 170 feet.

Mid-Kansas Oil Co.'s No. 18, CSL SE, Section 19-25-9, had sand at 2,352-2,417 feet and made 90 bbls. after a shot of 100 quarts. No. 9, NW cor. NW, Section 20-25-9, had sand at 2,396-2,447 feet and made 70 bbls. after a shot of 60 quarts. The rig is up for No. 1-C Ladd, NW cor. SW, Section 20-25-9. No. 8, SW cor. NE SW, Section 30-25-9, is drilling at 600 feet. Loy and others' No. 1, NW cor. SW NE, Section 15-24-11, is dry and abandoned at 2,013 feet. White Eagle Oil Co. and others' No. 6, NE cor. NW SE, Section 19-24-11, is spudded. Ward McGinnis and others have the rig up for No. 6 Wiggins, SW cor. NE SW, Section 30-24-11. The rig is on the ground for No. 6 Wiggins B, NE cor. SW SW, Section 30-24-11.

Galbraith & Griffith have a rig on the ground for No. 1 Hidgson, SE cor. NW, Section 31-26-10. Owen-Osage Oil Co. has a dry hole at 1,926 feet in No. 1, SE cor. NW SW, Section 9-28-11.

Barnsdall Oil Co. has a rig on the ground for No. 1-A Leddy, SW cor. SE SW, Section 36-22-9.

**Lyon County**

Derby Oil Co. has a dry hole at 1,979 feet in No. 1, NW cor. NW, Section 11-19-12, Lyon County. Double A Oil Co. is drilling at 670 feet in No. 1, NW cor. NW, Section 8-19-13. McCulloch Oil Co.'s No. 1, CSL SE SW, Section 24-21-10, had sand at 2,592-2,601 feet and started at 200 bbls. of 25.4 gravity oil. Pryor & Lockhard are drilling at 750 feet in No. 1, C NE SW, Section 24-21-10. Theta Oil Co.'s No. 3, SE cor. NW, Section 30-21-10, is drilling at 650 feet. Chris. Sheedy and others' No. 9, NE cor. SW, Section 31-21-10, had sand at 2,212-54 feet and made 294 bbls. after a shot of 160 quarts. The rig is up for No. 11 Atyeo, SE cor. SW SW, Section 31-21-10. Transcontinental Oil Co.'s No. 5 Atyeo, NE cor. SE NW, Section 31-21-10, is rigging up. No. 6 Atyeo, NE cor. NW NW, Section 31-21-10, is drilling at 550 feet. No. 7 Atyeo, SW cor. NE NW, Section 31-21-10, is rigged up. The rig is up for No. 1, SW cor. NE, Section 31-21-10. Gashe & Ballierre are fishing for a bit at 460 feet in No. 1, SW cor. NE NW, Section 17-21-10. Amerada Petroleum Corp. has rigged up No. 1 McCullough, SW cor. SE, Section 36-21-12.

**Chase County**

Manhattan Oil Co. and Phillips Petroleum Co.'s No. 1, SW cor. SW, Section 1-21-9, is drilling at 900 feet.

**Sumner County**

The Roxana Petroleum Corp. and the Mid-Continent Petroleum Corp. have a rig up for No. 1 Clodfelter, SW cor. SE NW, Section 22-31-2, Sumner County. Roxana Petroleum Corp.'s No. 1, NE cor. NW, Section 25-31-2, had sand at 1,855-60 feet and swabbed 300 bbls.

Stallings and others' No. 1, NE cor. NW, Section 3-23-2, is drilling at 450 feet. Roxana Petroleum Corp.'s No. 1 Owens, SE cor. NW, Section 18-32-2, is drilling at 200 feet. No. 1, NE cor. SW, Section 17-32-2, had sand at 3,615-62 feet and made 700 bbls. Indian Territory Illuminating Oil Co. has a rig up for No. 1 Morris, SW cor. NE, Section 17-32-2. Twin State Oil Co. has a rig up for No. 1 Hartzell, NW cor. SE, Section 17-32-2.

Prairie Oil & Gas Co.'s No. 1, SW cor. NE, Section 34-34-2, had sand at 3,468-98 feet and made 50 bbls. after a shot of 60 quarts. Tools are being moved in to drill No. 1 Olson, NW cor. SE, Section 34-34-2. Owen-Osage Oil Co.'s No. 1, C NE SW, Section 5-35-5, is dry at 3,733 feet. S. H. E. Petroleum Co.'s No. 2,


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NATIONAL PIGMENTS & CHEMICAL CO.
St. Louis, Mo.

SE cor. NE NW, Section 24-34-6, is drilling at 1,400 feet. National Union Co. has built a rig for No. 1 Nickelr, SW cor. SE, Section 22-33-2w.

**Rice County**

Phillips Petroleum Co. is drilling at 1,450 feet in No. 1, SW cor. SE NW, Section 36-20-6w, Rice County. Yonkers and others have spudded No. 1 Miller, NE cor. NE, Section 3-21-6w.

**Reno County**

Hartman & Skaer have spudded No. 1 Smith, C SW, Section 24-24-8w.

**Cowley County**

Roth & Faurot are drilling at 1,750 feet in No. 1 Wickliff, NW cor. SW, Section 29-31-5, Cowley County. Lewis Oil Co.'s No. 8, NW cor. NE SW, Section 31-30-6, had sand at 2,854-97 feet with 2,000,000 feet of gas and 385 bbls. of oil. The rig is up for No. 9 Robbins, SW cor. NE SW, Section 31-30-6. Southwestern Petroleum Co.'s No. 12, SW cor. NE NE. Section 6-31-6, had sand at 2,850-68 feet and made 25 bbls. after a shot of 80 quarts.

The Carter Oil Co.'s No. 9, NW cor. NE SE, Section 19-32-3, had sand at 3,416-22 feet and made 100 bbls. T. B. Slick has a rig on the ground for No. 1 Swope, SW cor. SW, Section 9-33-3. Marland Oil Co. is drilling at 1,050 feet in No. 2, SW cor. SE SW, Section 13-32-4. Lewis Oil Co. has spudded No. 2 Carlisle, NW cor. NE NE. Section 30 32-5.

**Sedgwick County**

Chastain & Chastain have a dry hole at 4,118 feet in No. 1, NW cor. SE. Section 7-27-1, Sedgwick County.

## STRATEGY OF THE SEABOARD REFINERIES

(Continued from Page 30)

took it over several years ago. The greater part of the equipment was old and to modernize the plant meant practical rebuilding.

The work of constructing a modern plant in this connection did not merely mean the building of a new refinery. All old equipment that could possibly be saved or utilized was carefully scrutinized and tested, and the plant as it now stands, while some old portions have been entirely wiped out, comprises many salvaged elements and units skillfully inserted and being used and operated with increased efficiency in conjunction with the new equipment.

Some idea of the economy in construction practiced in the rebuilding of the Marcus Hook refinery can be obtained from the fact that fully 95 per cent of the materials salvaged from the units which were torn down, were used in the construction of the new and modernized plant.

This result required careful planning and much greater care in design than would have been required if all new materials had been used. Every piece of salvaged equipment had to be inspected, tested and classified before a place could be found for it in the new plant.

In reconstructing the refinery, most of the new installations were made on a new location in the refinery site and equipment on the old location was dismantled. Later this latter area will again be used as the refinery expands.

Much of the old material dated from the earliest days of the refinery, which was constructed in 1903. When the refinery was started that year it comprised one still and one tank in the marshes off the Delaware River, and it was gradually enlarged to a crude oil capacity of 3,000 bbls. a day.

The original refinery, which was known as the lower refinery, as distinguished from equipment on higher ground later installed, comprised 10 crude stills, agitators, treating and filtering houses and tankage, and a wax plant, this equipment operating on Pennsylvania crude piped in from the eastern fields. The equipment on the higher ground comprised 10 fire stills operating on Mid Continent crudes, tankage, etc. The refinery also comprised compounding and barreling plants, terminal and dockage facilities for unloading and loading tankers and loading racks on a siding of the Philadelphia & Reading Railroad.

**Complete Metamorphosis**

The present refinery is a complete metamorphosis, and the change was accomplished in what is believed to be record time. The new refinery is a complete plant, including cracking equipment, and it is now handling and completely refining 8,000 bbls. per day of crude, largely from the Mid-Continent fields.

The new plant was designed entirely by C. B. Watson, vice president in charge of refining and bulk sales, with the assistance of the Refinery Control Board of the Pure Oil Co. The Refinery Control Board consists of R. C. Osterstrom, chief chemist in charge of yields and quality of products; R. H. Carr and A. E. Harnsberger, mechanical engineers in charge of mechanical equipment and its operation; J. M. Augustus, combustion engineer in charge of furnaces and their operation; Clyde L. Smith, distillation engineer in charge of distillation, and D. E. Sullivan, chief engineer in charge of engineering and construction work.

In the spring of 1925 a crew of draftsmen began placing the various designs of the new plant on paper, and ground was broken June 1 of that year. Just nine months later, or on March 1, 1926, J. H. Heslar, superintendent of construction on the job, placed the first of the new units into operation and turned them over to E. A. McCadden, operating superintendent of the plant.

In view of the dismantling and reconditioning work involved, and considering the type of new units installed, the completion of the plant in this short space of time speaks well for the resourcefulness and efficiency of the Pure Oil organization. All units were erected by Pure Oil employes and no contractors were required.

The new plant contains three complete 5,000-bbl. tube stills with independent fractionating equipment, four Cross process units of 2,000-bbl. capacity each, continuous treaters, pumphouse, etc., with the wax plant retained, new wax sweating ovens and new filter plant, agitators, acid recovery plant, new boiler house and loading rack.

Some phases of the reconditioning and utilization of the old equipment and of the problems of building the new plant are of particular interest.

**Salvage in Remodeling**

Part of the equipment in the old plant consisted, as stated, of a battery of 10 old type shell stills of 1,000 bbls. capacity each. These stills with their settings and condensers were completely overhauled and modernized. A new receiving house was constructed for these stills and additional rundown tanks were provided by refabricating old tanks taken down from other parts of the old plant. This battery is now being used for rerunning and reducing the various lubricating oil fractions.

The eight agitators in the old plant were of the steel skirt type. The steel skirts were removed and the agitators were set on new reinforced concrete and brick foundations in a new location. The new roofs of these agitators are of reinforced concrete protected by an acid-proof coating.

The old plant contained approximately 200 tanks of various sizes. Fully half of these had to be moved to new locations to make them fit into the layout. Some of these tanks were moved by enclosing both the old and new locations within a low earthen dike, filling the enclosure with water and floating the tank to its new location.

The depth of water required to float a tank 30 feet high ranges from 14 inches for a 55,000-bbl. tank to 2 feet for tanks of smaller capacities. Other tanks were moved by loading them on heavy trucks and transporting them with tractors, and even by lifting them up on edge and rolling them.

Most of the old tanks were of non-gastight type with wooden roofs. All wooden roofs were removed during the construction period and replaced with either concrete or steel with the result that every tank in the plant is now gastight and equipped with modern breathing and fire protection equipment.

**Site and Drainage**

Nearly all of the ground on which the refinery is located was at one time a low, water covered marsh. It has been filled in gradually as the plant has grown. The new part of the plant is located on ground that had never before been filled. Fill to a depth of 5 to 10 feet had to be placed on the ground in the vicinity of the new part of the plant. Before making this fill a small stream or creek which flowed through the plant had to be enclosed for a distance of about 1,600 feet in a concrete conduit of proper size to permit the proper natural drainage of surrounding property. Part of the earth for making this fill was moved from some high ground on the property and the balance was shipped in in railroad cars from various sources such as the new Broad Street subway in Philadelphia. The marshy nature of the underlying soil made necessary the use of piling under the various foundations.

All of the water drained from the entire plant is conducted to a point at one end of the plant where it is passed through an efficient oil trap of reinforced concrete construction where all traces of oil are removed and salvaged. This serves the double purpose of preventing losses of oil and preventing the pollution of the beautiful Delaware River into which the drainage eventually flows. The walls of this oil trap are protected against the action of the oils and other impurities which it removes from the wasted water by means of a special cement compound applied with a cement gun under air pressure. This has been found to protect concrete against disintegration under such conditions.

All of the sewers used to conduct the drainage water to this oil trap are rectangular concrete conduits with removable tops. The oil pipelines connecting the various parts of the plant are also enclosed in these ducts so that any leakage from these lines will float on the surface of the water and will be recovered in the oil trap when it arrives at that point. All of these ducts are equipped with open steam lines which permit the immediate extinguishing of any fires that may occur in the ducts.

The construction of the new plant, which required only nine months from the date of breaking ground until the first operation, used the services of 900 workmen from the various trades.

The large volume of earth that had to be moved in making the filled ground around the new part of the plant was handled by a fleet of wheel scrapers, pulled by tractors. These outfits were kept in operation 24 hours each day during the construction period. The cost of moving this earth with these outfits proved to be ridiculously cheap.

General view of the south end of the Marcus Hook refinery of the Pure Oil Co. The Delaware River can be seen in the distance.

## SHREVEPORT MARKET REPORTS DULL WEEK

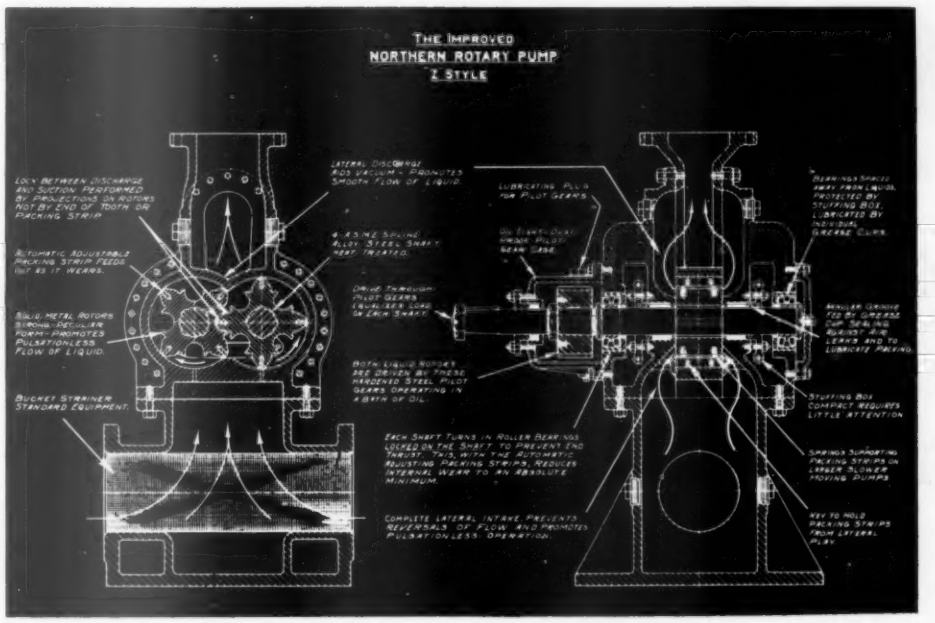
SHREVEPORT, La., July 3.—With only a few spasmodic sales throughout the week Shreveport's refined market finished another dull week. To add to the gloom refiners look forward to the next week with little encouragement.

U. S. Motor grade gasoline eased off on price and was sluggish. Little demand for gasoline other than local was in evidence. In some instances concessions were made and the price went to as low as 11¼. Grade C natural gasoline trailed Navy and its price structure was shaken and the product moved slowly.

Kerosene, the star climber a few weeks ago, is still the stellar declining product. Inquiries for the burning oil were light and only a few sales reported.

Gas oil was firm in price and moved steadily. Distillate was tight and refiners are expecting the product to become scarce. Fuel oil remained strong.

# The Improved Northern Rotary Pump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BOTH LIQUID ROTORS ARE DRIVEN BY PRESS HARDENED STEEL PILOT GEARS OPERATING IN A BATH OF OIL
STUFFING BOX COMPACT REQUIRES LITTLE ATTENTION
EACH SHAFT TURNS IN ROLLER BEARINGS LOCKED ON THE SHAFT TO PREVENT END THRUST. THIS, WITH THE AUTOMATIC ADJUSTING PACKING STRIPS, REDUCES INTERNAL WEAR TO AN ABSOLUTE MINIMUM
SPRINGS SUPPORTING PACKING STRIPS ON LARGER BLOWER MOVING PUMPS
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KEY TO HOLD PACKING STRIPS FROM LATERAL PLAY

## NOTE

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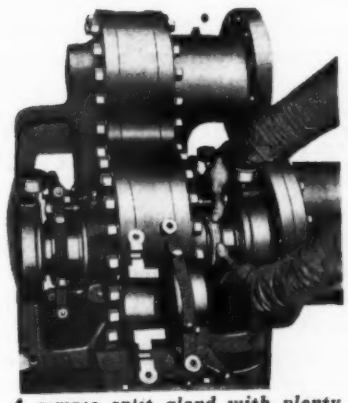

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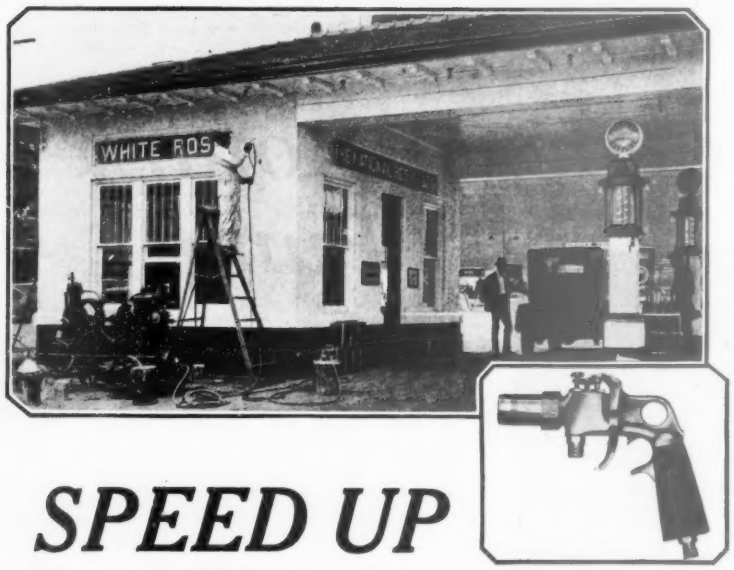


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# MATTHEWS
## MECHANICAL PAINTING
# EQUIPMENT

## CALIFORNIA FIELDS

(Continued from Page 50)

weeks ago, the hole is only down a little more than 2,200 feet. The Fresno-United's test in the vicinity of Raisin City is rotating ahead in a sticky blue shale at 3,312 feet with no showings of any kind reported to date.

The Bolsa Chica has resumed drilling on its Kettleman Hills wildcat in Kings County at 2,045 feet and extreme care is being taken as every effort will be made to determine the thickness of the oil sand which resulted in the accumulation of a little more than 1,000 feet of oil in the hole. A test made some time ago failed to result in commercial production, as the well pumped off but the outlook is, nevertheless, fairly promising. E. J. Miley has just spudded in his No. 2 Casitas at Ojai and the hole is down about 200 or 300 feet. No. 1 Berlywood of the Shell at Moorpark in Ventura County, is rotating ahead in a hard sand at 4,120 feet. The Standard spudded in its first well yesterday in Santa Barbara County on the recently acquired Palmer Union property and this wildcat, which is about 1½ miles from production, will be pushed ahead to a successful conclusion. The Pan American's test in Monterey County is down 492 feet in a sandy shale and preparations are being made to land a surface string possibly a few feet off bottom. The Shell has cemented a string of 18-inch in No. 1 Murphy near Petaluma at 596 feet, the bottom of the hole being 602 feet.

**Julian-Marine Merger**

S. C. Lewis, president of the Julian Petroleum, has confirmed the merger rumors connecting his organization with the Marine Oil Corp., and while he has not yet released details of the transaction, this information should be forthcoming within a short time. The Associated had a minority interest in the Marine Corp., holding about 600,000 shares of the 2,700,000 shares issued. This company has sanctioned the deal and it is reported the merged interests of the Julian and Marine companies will be acquired by an eastern concern, which Mr. Lewis has stated is strongly entrenched in the oil industry. The bringing together of these two companies is a logical move as the Julian Petroleum Corp. has adequate pipeline and distribution facilities while the Marine has a fairly good crude oil production.

The new corporation, which will be designated as the California Eastern Oil Co., will start off with a pipe line system which connects each of the major fields in southern California with a marine terminal at Los Angeles harbor and an adjacent refinery site which is owned in fee. Four refineries, comparatively small of course, and roughly around 100 service stations are also included in the deal. The new company will also start off with a daily crude oil production of around 15,000 bbls. about half of which is purchased in the open market. The Marine Oil Corp. has held a contract with the Pacific Oil Co. whereby it disposed of its surplus fuel oil at 10 cents a barrel above the open market and, while the new organization may take this contract over, it would not be surprising if the Associated was given this as a consideration for sanctioning the entire deal as outlined.

## ARTESIA, NEW MEXICO

(Continued from Page 54)

Jones No. 1 well on the Beeson permit in the SE of Section 33-17-30 at a depth of 2,378 feet. Southeast of the Artesia Pool the Cook-Ironside No. 1 in Section 10-20-29 is drilling in a hard lime at 1,300 feet. The salt in this test was encountered from 480 to 1,200 feet.

An extension of several miles to the west was made during the week by the Empire which has drilled in a 40-bbl. well in its No. 1 on the Henry Russell permit in the SW of Section 35-17-27, a good sand bing picked up from 1,592 to 1,609 feet. This well was located by F. S. Prout of the Empire and appears to be on a large dome. The new well is nine miles southeast of this city.

Flynn-Welch & Yates have added two more producers in the proven area, these being No. 46 and No. 48, the latter one of the best wells in the field gauging 90 barrels settled.

Henderson-Dexter & Blair are moving tools to a location in the NW of the NW of Section 9-19-28, the contract calling for a hole to 3,500 feet. In the Roswell area Rogers and others' No. 1 on the Purcell Sloop permit in Section 14-11-26 is a 10 bbl. producer following a shot in 10 feet of sand picked up at 1,230 feet.

**Drilling in Eddy County**

Colorado Drilling Co. drilling No. 1 Irvin in the SE of SE of Section 8-16-27 have reorganized the company and let contract for an 1,800 foot test and is now fishing for broken jars and tools at 1,400 feet; Cook-Ironside No. 1 in Section 10-20-29, drilling in hard lime at 1,300 feet, salt from 480 to 1,200 fet; Decum Development Co.'s No. 1 Vandagriff in Section 5-17-28, drilling below 2,200 feet; Empire Gas & Fuel Co.'s No. 1 Russell permit in Section 35-17-27, oil sand from 1,595 to 1609 feet; Flynn-Welch & Yates' No. 4 Keyes in Section 21-18-28, drilling below 2,280 feet; No. 46 in Section 28-18-28, on production; No. 47 in Section 28-18-28, on production; No. 48 in Section 21-18-28, drilling in 2,150 feet; Hasenfuss & Donley No. 2 in Section 13-18-27, shut down on top of pay; Rehn & Harris' No. 1 Winans in Section 15-18-28, drilling 900 feet; Henderson-Dexter & Blair's No. 1 in Section 9-19-28, moving in tools for 3,500 foot test; Ohio Oil Co.'s No. 2 New States in Section 8-18-28, drilling 1,000 feet; Ohio Oil Co.'s No. 1 in Section 12-17-31, drilling 15½ inch validation hole; Picher Oil Corp.'s No. 3 Cronin permit in Section 12-18-27, cleaning out after shot; Phillips & Welch No. 1 in Section 35-17-28, drilling 1,200 feet; Swartz-Compton & Eaton's No. 1 Brainard permit in Section 5-18-27, drilling below 1,600 feet; Sun Oil Co.'s No. 1 in Sec. 21-25-30, drilling; Skelly Oil Co.'s No. 1 in Section 22-17-31, drilling 200 feet; Shugart and others' No. 1, Section 1-17-31, location; Sullivan No. 1 in Section 8-18-31, drilling 200 feet; Sullivan No. 1 in Section 1-18-31, drilling 150 feet; Twin Lakes Oil Co.'s No. 1 in Section 28-18-28, fishing for bit; Wade & Bujac's No. 1 Goodale permit in Section 19-18-29, shut down; Wooley & Jones' No. 1 Beeson in Section 33-17-30, set 8¼ inch casing at 2,378 feet. Compton No. 2 Mann permit, in Section 3-18-27, is drilling at 1,480 feet.

**Chaves County**

Colorado Gas & Fuel Co.'s No. 1 in Section 16-8-27, fishing at 5,300 feet; Etz, De Vito and others' No. 1 in Section 24-11-25, drilling 550 feet; Gibson Oil Corp.'s No. 1 Forsyth in Section 8-11-23, drilling below 700 feet; Rogers and others' No. 1 Purcell sloop permit in Section 14-11-26, cleaning out, after shot appears like 10 bbl. producer; Sparrow & Drake's No. 1 Fahrlander Section 11-6-27, set 10 inch casing at 350 feet; The Texas Company's No. 1 Dunken Dome Section 29-17-18, drilling below 750 feet.

**Lea County**

J. S. Cover's No. 1 in Section 15-21-33, fishing at 900 feet; Inglefield and others' No. 1, drilling below 400 feet; Maljamar Oil & Gas Corp.'s No. 1 Simon permit, Section 29-17-32, validated; No. 1 Baish, Section 21-17-32, setting 6⅝-inch casing at 3,590 feet, well making 100 bbls.; No. 1 Grace Mitchell permit, ready to spud; No. 1 Beardsley permit in Section 15-17-32, validated; No. 1 Pearsall permit in Section 33-17-32, waiting for tools; No. 1 McDonald & Jewett permit in Section 13-18-32, running casing at 310 feet; No. 1 Harry Walker permit in Section 5-18-32, validated; No. 1 Anna M. Stroup permit in Section 1-18-32, validated; No. 1 Dale Cheesman in Section 22-18-32 validated; No. 1 Wm. Mitchell in Section 17-17-32, validated; No. 1 Pearl Miller in Section 23-17-32, validated; Ohio Oil Co.'s No. 1 Pearl Miller permit in NE cor. of NW of Section 35-17-32, location; Ohio Oil Co.'s No. 1 Wm. Mitchell permit in NE cor. of SW of Section 18-17-32, location

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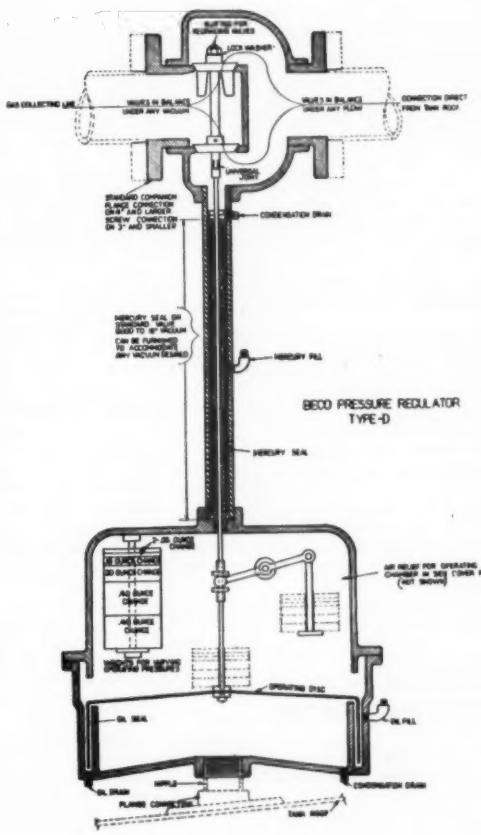


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BECO EQUIPMENT LEADS WHILE OTHERS FOLLOW

## California Protests Freight Reduction On Natural Gasoline

LOS ANGELES, July 2.—During the past week, domestic gasoline consumption has a shown a substantial increase. Warmer weather combined with the vacation season now being in full swing, are responsible in the main for the improvement. Local marketers are now looking forward to record gasoline sales for the balance of the year.

Figures published by the Bureau of Mines have just become available, covering May operations, showing an increase in gasoline production of 7.19 per cent over April and an increase of 28.5 per cent over the output of May, 1925. In spite of this substantial increase in gasoline production, stocks of gasoline showed a decrease of almost 140,000 bbls. during the month. At the end of the month gasoline stocks totaled approximately 10,000,000 bbls. Indications are that this commodity will have a strong market for the balance of the summer at least.

During May, natural gasoline production showed an increase of 692 bbls. a day. In spite of this increased production, consumption increased at a greater rate, stocks being reduced during the month by almost 8,000 bbls. These figures are gratifying to the natural gasoline manufacturer as during April stocks showed rather a substantial increase over March. Apparently, the California market is requiring sufficient quantities of natural gasoline to absorb not only the local production, but the large quantity that has come in by tank car from the Mid-Continent as well. At the end of May, there was eight days' supply of natural gasoline in storage.

Some of the larger oil companies have noted the steps being taken to reduce the freight rate on natural gasoline from the Mid-Continent to California and are strongly protesting against such reductions. They are not only sending their objections to the Transcontinental Freight Bureau, but are working through the railroads as well. They have already succeeded in convincing one of the large railroads that a reduction of this sort would be a mistake, and this company is also actively protesting against such a rate decrease.

Lubricating oils are moving along with gasoline, as is characteristic of the California market, and are therefore being consumed in increasing volumes. While the price situation is not yet strong, it has shown improvement during the past few weeks, and marketers expect this improvement to continue on into the summer.

While the demand for fuel oil is very good, production of this commodity is still so great that stocks continue to increase each month. Until California refiners begin to manufacture gasoline by cracking on an extensive scale, this situation is not expected to improve very much.

## TO INCREASE MID-CONTINENT RAIL RATES

(Continued from Page 31)

the independent oil industry, in the Mid-Continent Field, since 1914, covering as it does the only territory to which any great volume of petroleum products can be shipped in fair competition with the pipeline refineries, because of the very material increases in freight rates since 1918, and without having been able to thoroughly analyze the resulting situation, I think it conservative to say that if the increases authorized by this decision shall go into effect, it will mean an additional burden of more than $10,000,000 a year on the independent refining industry in the Mid-Continent Field. I doubt, whether they can profitably operate under an additional handicap, if not, of course the railroads would be equally if not greater losers. This decision authorized an increase of 3 cents per 100, equivalent to almost a quarter of a cent per gallon, on shipments to Kansas City and Chicago, Peoria and others towns; an increase of 2½ cents per 100 to St. Louis, Milwaukee, Keokuk and other towns. This is equivalent to a fair net profit and on the close margin at which petroleum products are sold means all, if not more, than the net profit to the refiner.

"Careful study of the methods employed by a successful railroad operator might be more beneficial to some of the railroads than a rate analysis trying to figure out how an increased rate can be published.

"The railroads recognize a river as a competitor, even though no steamboats ply its channel. They refuse to recognize a pipeline actually in existence pumping oil every day and I have no thought that the railroads take the position that a railroad cannot compete with a pipeline. If they will only investigate, they will find that the actual transportation of oil by rail costs less than does the actual transport of the same quantity of oil, the same distance by pipeline. In other words, a pipeline already constructed and a railroad already constructed, Tulsa to Chicago, the actual cost of transporting 20,000 bbls. of oil per day, will cost more in actual money, through the pipeline than by rail. All of the railroads in Oklahoma have vacant space on their rails exceeding 50 per cent of their capacity and this vacant space could transport every gallon of oil that is transported out of Oklahoma and the only additional cost would be the labor, fuel and machinery used in the actual transporting."

## PENNSYLVANIA MARKET WEAKER DURING WEEK

OIL CITY, Pa., July 3.—The refined market in Pennsylvania has been very weak during the past week. Gasoline has been weakening due largely to weather which has not been good for motoring. Of recent days typical July weather has arrived with a much greater increase in motor fuel consumption, but many of the refiners believe that it has delayed its arrival too long and that cheaper gasoline is in sight. Kerosene has also been steadily weakening during the week. The demand for fuel oil has become less probable because of a reduced running of cracking plants. There has been some activity in cylinder stocks but prices slumped some. Wax continues to move fairly well. Neutrals are a little softer but bright stocks are holding their own and are scarce.

## TEXAS PANHANDLE

(Continued from Page 40)

lief Oil Co.'s No. 2 Smith, in Section 11, Block Y, was shot with 320 quarts at 2,710-85 feet and made 200 bbls. afterward; No. 3 was drilling at 2,620 feet and No. 4 was rigging up.

The Roxana Petroleum Corp.'s No. 1 Smith "B", Section 11, Block Y, was still fishing tools and flowing 200 bbls. of fluid, 50 per cent of which is water; No. 2 Smith "B" was shot with 150 quarts at 2,800-40 feet, total depth, 2,858 feet, and bridged. It was cleaning out. No. 3 was drilling at 2,865 feet and flowing 65 bbls.; No. 4 was fishing at 1,980 feet and No. 5 was drilling at 2,738 feet.

J. A. Swindler & Son's No. 1 E. Cockrell, in Section 8, Block B-3, D. & S. E. Survey, was shut down at 2,921 feet with no increase in oil. The White Eagle Oil & Refining Co.'s No. 2 Smith, Section 11, Block Y, had oil in lime at 2,881-2,964 feet and was cleaning out to shoot. No. 4 was drilling at 1,740 feet with a show of oil; No. 2 J. A. Whittenburg, in Section 12, was drilling at 2,712 feet with a show of oil and No. 1 was drilling at 2,250 feet.

**Moore County**

In Moore County, the Phillips Petroleum Co.'s No. 1 Sneed, which was reported last week as making 20,000,000 feet of gas, was drilling ahead at 2,490 feet. The Moore County Oil Co.'s No. 1 Sneed was fishing at 975 feet and the Prairie Oil & Gas Co.'s No. 1 Sneed was shut down for water at 865 feet.

In Hartley County, the Deep Rock Oil Co.'s No. 1 Lyman & Balfour was shut down at 700 feet with pipe trouble. Eslick and others' No. 1 Irving, in Section 13, Block 13, had a rig on the ground. W. H. Holmes' No. 1 Coots, in Section 58, Block XR, was spudded and shut down.

In Carson County, the Magnolia Petroleum Co.'s No. 2 Burnett, Section 115, Block 5, was still having casing trouble at 2,925 feet and was shut down. The Marland Oil Co.'s No. 2 Burnett "A" was drilling at 2,265 feet; No. 3 at 2,800 feet and No. 4 at 2,600 feet. Young & Patrick's No. 1 J. G. McConnell, in Section 65, Block 4, was completed for 85,000,000 feet of gas after plugging back from 2,920 to 2,899 feet.

In Gray County, the Shamrock Oil Co.'s No. 1 Worley & Reynolds, Section 83, Block 3, was drilling at 2,420 feet. The Bay Shore Petroleum Co.'s No. 1 C. W. Bradford, in Section 148, Block B-2, H. & G. N. Survey, was carrying the 15-inch to 600 feet. Young and others, in Section 106, Block 3, were building a rig for No. 1 A. Holmes and the Wilcox-Pampa Oil Co. was building a rig for No. 12 Worley & Reynolds.

There are now 29 bona fide locations in Gray County, 16 rigs and 6 wells drilling, a total of 51 operations.

In Wheeler County, the Gibson Oil Corp.'s No. 3 Phillips, in Section 41, Block B-24, was deepened to 2,280 feet, top of pay being 2,269 feet and the well flowed 298 bbls. the first 24 hours after it was drilled deeper. It was completed at that depth. The oil is coming from brown sand containing about 10 per cent lime.

**Panhandle New Locations**
**Gray County**

Blackwell & McGee's No. 1 J. B. Bowers, SE cor. Section 92, Block B-2, H. & G. N. Survey (to be a 3,200-foot test). The Empire Gas & Fuel Co.'s No. 1 J. J. Wall, SW cor. SE NE, Section 161, Block 3, I. & G. N. Survey, rig. The Magnolia Petroleum Co.'s No. 6 Merten Brothers, 990 feet north and 330 feet west SE cor. Section 82, Block 3; No. 7, 990 feet west and 330 feet north of SE cor.; No. 8, SW cor. SE; No. 9, SE cor. SW, same section. The Pure Oil Co.'s No. 3 J. T. Benton, NW cor. SW, Section 63, Block 3, rig. The Humble Oil & Refining Co.'s No. 2 Worley & Reynolds, SW cor. east 80 acres of NE, Section 83; No. 3, NE cor. same 80 acres; No. 4, NW cor., same 80 acres. The Texas Company's No. 1 C. W. Saunders, 2,968 feet east and 330 feet north SW cor. Section 81, Block 3; No. 1 A. Holmes, NE cor. E half SE, Section 87, Block 3, rig. The Phillips Petroleum Co.'s No. 1 Merten, SW cor. W half NE, Section 82, Block 3; No. 2 NW cor. W half NE, same section. Cranfill's No. 1 T. B. Noble, C SE NE, Section 10, Block A-6, H. & G. N. Survey. The Magnolia Petroleum Co.'s No. 5 Merten Brothers, NW cor. S half Section 82, Block 3, I. & G. N. Survey. The Pure Oil Co.'s No. 1 J. T. Benton, SE cor. SW, Section 63, Block 3; No. 2, NE cor. SW, same section. The Sun Oil Co.'s No. 1 Worley & Reynolds, NE cor. SW, Section 83, Block 3. The Wilcox-Pampa Oil Co.'s No. 7 Worley & Reynolds, SE cor. NW, Section 62, Block 3; No. 8, SE cor. NE SE; No. 9, NW cor. NE; No. 10, NE cor. NW; No. 11, NW cor. NW; No. 12, SW cor. NW; No. 13, NW cor. SW; No. 14, SW cor. SW; all in the same section.

**Collingsworth County**

Gibson Oil Corp.'s No. 1 Williams and others, NW cor. SW, Section 5, Block 13, H. & G. N. Survey, rigging up.

**Ochiltree County**

Standard Development Co.'s No. 1 Bowen, NW cor. SW, Section 923, Block 43, H. & T. C. Survey. W. G. Burton's No. 1 Strickler, SW cor. SW, Section 579, Block 43, H. & T. C. Survey.

**Moore County**

The Amarillo Oil Co.'s No. 2 Terry Thompson, 660 feet north and east of SW cor. NE, Section 19, Block 44, H. & T. C. Survey. This is corrected location and well number, it having been formerly No. 1. Present No. 1 is old Panhandle well in NW cor. of Section 24, just southeast of this well. Murchison & Fain's No. 1 Binkley & Caine, C SW, Section 55, Block 24, H. & G. N. Survey; No. 1 Binkley & Caine "A", C NE, Section 37, Block 24, same survey. The Upham Gas Co.'s No. 1 Cody, 660 feet south and 330 feet east NW cor. W half NW NE, Section 88, Block 17, H. & G. N. Survey.

**Hutchinson County**

Harvey Oil Co.'s No. 1 W. B. Harvey, SW cor. Section 33, Block M-21, T. C. R. R. Survey, rigging up. J. H. Middleton's No. 1 Smith "A", NW cor W half NW, Section 7, Block Y, M. & C. Survey, rig. The Sunburst Oil Co.'s No. 3 Smith, SW cor. NW SW, Section 14, Block Y; No. 4, SE cor. NW SW, same section. The Prairie Oil & Gas Co.'s No. 3 Johnson "B", SW cor. south 160 acres Section 69, Block 46, H. & T. C. Survey; No. 4, NW cor. same 160 acres. The Phillips Petroleum Co.'s No. 1 J. A. Whittenburg-Elra, NE cor. of J. A. Whittenburg's 498-acre tract of Mrs. E. T. Tumlinson Survey, in the Mary Whitley Survey, cellar. The Dominion Oil Co.'s No. 1 Jasper, 335 feet north and west SE cor. of their 110-acre tract in Section 23, Block M-23, T. C. R. R. Survey. The Phillips Petroleum Co.'s No. 1 Whittenburg-Patburg, SW cor. Section 67, Block 46, H. & T. C. Survey; No. 1 Johnson-Cruso, SW cor. west 40 acres of south 80 acres of north 240 acres, Section 69, Block 46.

(Note: Locations are 330 feet from lines unless otherwise specified.)

**PANHANDLE TEXAS PRODUCTION**

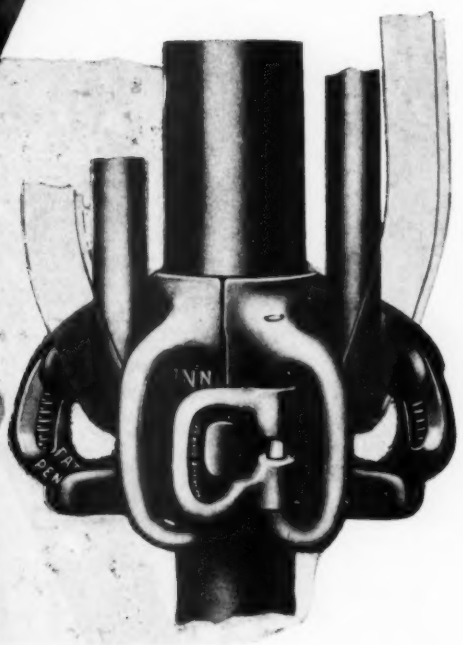
Estimated daily average production by company and district for week ending June 28.

| Companies— | Wells No. | Bbls. Daily Av. Prod. |
|---|---|---|
| **Carson County** | | |
| Amarillo Oil Co. | 1 | |
| American Oil Co. | 4 | 510 |
| Gates Oil Co. | 1 | 10 |
| Gulf Prod. Co. | 10 | 200 |
| Marland Oil Co. | 7 | 1,470 |
| W. W. Silk | 2 | 80 |
| Skelly Oil Co. | 2 | 95 |
| Sunny Jim Oil Co. | 2 | 50 |
| The Texas Company | 9 | 190 |
| Totals | 38 | 2,605 |
| **Gray County** | | |
| Clark and others | 1 | Off |
| Empire G. & F. Co. | 1 | 20 |
| Shamrock Pet. Co. | 1 | Off |
| Wilcox O. & G. Co. | 4 | 2,892 |
| The Texas Company | 1 | Off |
| Total | 8 | 2,912 |
| **Hutchinson County** | | |
| American Ref. Co. | 1 | 60 |
| Amerada Pet. Corp. | 2 | 90 |
| Apex Oil Co. | 1 | 75 |
| Badger Oil Co. | 1 | 90 |
| Barnum and others | 1 | Off |
| Canadian River Oil Co. | 4 | 360 |
| Canyon Oil Co. | 2 | 60 |
| Centerfield | 1 | |
| Coble Whittenburg | 2 | 325 |
| Cockrell-McIlroy | 2 | 1,350 |
| Currie Phillips | 1 | 1,440 |
| Derby Oil Co. | 1 | 670 |
| Devonian Oil Co. | 1 | 45 |
| Dixon Creek Oil Co. | 9 | 5,410 |
| Double Five Oil Co. | 1 | 220 |
| Dunnigan and others | 1 | 320 |
| Empire-Wilson | 1 | 5 |
| Fly Blackburn | 1 | 220 |
| Gates Oil Co. | 4 | 415 |
| Gibson McMillan | 1 | 50 |
| Golding Phillips | 1 | Off |
| Gulf Panhandle | 10 | 2,150 |
| Gulf Prod. Co. | 3 | 660 |
| Herrin McIlroy | 2 | 265 |
| Holmes and others | 1 | 315 |
| J. K. Hughes | 2 | 420 |
| Lenix Patterson | 1 | 1,620 |
| J. H. Lenix | 1 | Off |
| Lucky Ten Oil Co. | 1 | 400 |
| Marland Oil Co. | 1 | 40 |
| Midwest | 3 | 650 |
| McIlroy Oil Co. | 3 | 510 |
| McMan O. & G. Co. | 4 | 1,250 |
| Middleton | 1 | 25 |
| Newby | 1 | 30 |
| New Domain Oil Co. | 2 | 40 |
| Phillips Pet. and others | 26 | 8,330 |
| Phillips Blasdell | 1 | 30 |
| Prairie O. & G. Co. | 3 | 140 |
| Roxana Pet. Corp. | 3 | 1,940 |
| Skelly Oil Co. | 6 | 610 |
| Relief Oil Co. | 1 | 250 |
| Riley | 1 | 940 |
| Ryan Con. Pet. Co. | 1 | 240 |
| Sklatex Oil Co. | 2 | 470 |
| J. L. Smith | 1 | 10 |
| Scott Heywood | 1 | Off |
| Smith Bynum | 1 | 250 |
| Summit Oil Co. | 1 | 325 |
| Spring Creek Oil Co. | 1 | 135 |
| Sunny Jim Oil Co. | 2 | 490 |
| Travelers Oil Co. | 2 | 800 |
| Ward and others | 1 | 170 |
| Westex Oil Co. | 3 | 3,325 |
| White Eagle O. & R. | 4 | 1,700 |
| Whittengton | 1 | 50 |
| Totals | 132 | 39,785 |
| **Potter County** | | |
| Amarillo Oil Co. | 1 | 35 |
| **Wheeler County** | | |
| Gibson Oil Co. | 2 | 100 |
| Midwest Explo. Co. | 3 | 15 |
| Texhoma O. & R. Co. | 1 | 50 |
| Upham Gas Co. | 1 | Off |
| Totals | 7 | 205 |
| Grand totals Panhandle | 186 | 45,442 |
| Grand totals last week | 174 | 48,985 |

[DUNN TOOLAGRAM]

Dunn Super-Safety Tubing Elevator, Side Door, Double Link Type

Dunn Super-Safety "Tubing Flyer" Tubing Elevator



# DUNN

Dunn Super-Safety Tubing Elevator, Side Door, Single Link Type

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| **3. No Spreading** | Hinge pins, parallel with links and load, eliminate all spreading strains. |
| **4. Radical Latch Design** | Original and new, functioning radically different than the ordinary elevator latch. |
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Dunn Safety Sucker-Rod Elevators, "Simplicity" Type
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Murray Tool & Supply COMPANY
TULSA, OKLA.


## OPERATORS TO FOLLOW NAVAJO LEASE SALE

(Continued from Page 50)

ture, Section 23-33-12, 20 miles north of Farmington, which was very close to production, it was believed, several weeks ago. This time the bit was dropped in the 3,500-foot hole and the work of fishing has been suspended and Mr. Erdman has gone to California. A swab is being used on the Hall well on the Red Mesa structure, Section 13-33-12, with the hope that it might bring in the well. It has had the effect of increasing the oil flow.

The E. J. Miley interests have put a steel standard rig on the Red Mesa structure on the Hutchinson permit and have spudded in a well on the SW NE, Section 32-33-12, and announce they will tap the Dakota before they stop.

**Drilling Projects**

A group of Florida capitalists consisting of F. G. McMahon, A. D. Dority and E. M. Howard arrived in the field last week, bringing with them A. W. Masson, a petroleum engineer of El Reno, Okla., and soon made a deal for a block of acreage just north of the town of Aztec. They closed a deal with A. M. Hegy to drill a 2,500-foot hole to the Picture Cliff sand or production. The rig has been moved on the ground and the well is located in the NE SE, Section 9-30-11.

The Southwestern Development Co., which spudded in last week on the NE NE, Section 24-31-11, is running tour. The conductor pipe has been run and the hole will be rushed to the Picture Cliff sand.

W. H. Graham, who came here with the Coal Creek Oil Co., but who has been operating the past year near Las Vegas, came in last week with his attorney, A. M. Edwards, of Santa Fe, and had a well spudded in on a filing that was made under the Fall order permitting filing to be made on presidential proclamation parts of Indian reservations. The theory of this spudding was that the new law which had not yet been signed by the president would permit those who had drilled, built roads or had a rig on the ground in good faith to hold their filings. This claim lies southeast of the Hogback Dome, where the Midwest Refining Co. made the first discovery of oil and where its production in this field is coming from. A standard rig is being moved to the land and it will at least make an interesting test. As this claim adjoins the Hogback Dome, there is a possibility that it may become a great producer.

The Congress Oil Co., operating in the Coots Canon district, Section 34-29-11, has resumed drilling and is now at a depth of 1,300 feet. R. M. Smith, who has taken over the Miley contracts in the Bloomfield district has resumed drilling on the Bishop tract, Section 22-29-11, and he is also bringing in a rig that will carry the test to the Picture Cliff or other deeper sands.

The Union Oil & Mining Co., at whose well the rig of Murphy & Teague was burned several weeks, ago has decided to resume drilling and a rig is being moved to the place where the rig was burned.

## ANCIENT LEASE "COMES BACK"

TITUSVILLE, Pa., July 3.—Considerable interest has been created in a new oil well drilled in on a lease near Cutler's Corners on the Spring Creek road. The well is on an old lease a number of wells on which had been abandoned, and with the excellent showing of the new hole it is likely that drilling in that vicinity will be quite lively all summer.

The old lease was purchased some time ago by R. M. Averill and G. M. Anderson and this is the first they have drilled since acquiring the property.

The vein of oil was struck in the first sand at a depth of 584 feet and the well immediately filled up with 140 feet of fluid. When the bailer was put to work yesterday morning, in a short time the oil began to flow, indicating a heavy pressure of gas.

## Compressed Air In Old Field Increasing Oil and Gas Yield

BRADFORD, Pa., July 3.—Efforts of the Associated Oil Co., the Pennsylvania producing subsidiary of the Tide Water Oil Co., to renew underground pressure in old wells on its numerous leases in the Bradford Field through the introduction of compressed air, have resulted in increasing the crude yield on several leases.

Work has been conducted largely on two tracts which have been producers of high-grade lubricating base crude oil for about 50 years, one being the Bingham property of 3,000 acres and the other the 5,000 acres of leases on the Kane lands.

On the Bingham property a group of 13 wells was yielding an aggregate of less than 5 bbls. of crude on the average a day while on the Kane property 184 wells yielded a total of 35 bbls. a day.

This latter property was close to abandonment due to lifting costs and necessity for replacing pumping equipment at a cost of about $200,000. Instead, the company built an air plant for about $50,000 and introduced air at 200 to 400 pounds pressure into some of the wells to force oil into other holes facilitating pumping. Air pressure was also used to clean out holes as well as to lift the crude. The gas pressure in the Kane property wells is increasing, indicating that when work of inducing air is completed oil production will improve.

Work of rejuvenating pressure on the Bingham lease is more advanced and the 13 wells treated on that property have increased their flow from under 5 bbls. daily aggregate to 40 bbls. a day, while operating expenses have been considerably reduced. The company also is using water in some cases, flooding certain sections to force water to its open wells. At one point on the Bingham property the oil was evidently trapped between air and water pressure and a new well drilled came in for 75 bbls. a day.

## CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Imports of crude and refined oils at the principal United States ports for the week ended June 26 totaled 1,210,000 bbls., a daily average of 172,857 bbls., compared with 1,552,000 bbls., a daily average of 221,714 bbls. for the week ended June 19, and a daily average of 220,893 bbls. for the four weeks ended June 26.

| | |
|---|---|
| Baltimore | 214,000 |
| Boston | 65,000 |
| New York | 335,000 |
| Philadelphia | 48,000 |
| Others | 50,000 |
| Total | 712,000 |
| Daily average | 101,714 |
| At Gulf Coast Ports— | |
| Galveston district | 159,000 |
| New Orleans and Baton Rouge | 271,000 |
| Port Arthur and Sabine district | 68,000 |
| Total | 498,000 |
| Daily average | 71,143 |
| At All United States Ports— | |
| Total | 1,210,000 |
| Daily average | 172,857 |
| Daily average four weeks ended | 220,893 |

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended June 26 totaled 1,012,000 bbls., a daily average of 144,571 bbls., against 691,000 bbls., a daily average of 98,714 bbls. for the week ended June 19, and a daily average of 99,893 bbls. for the four weeks ended June 26.

| | |
|---|---|
| At Atlantic Coast Ports— | |
| Baltimore | 216,000 |
| New York | 110,000 |
| Philadelphia | 380,000 |
| Others | 306,000 |
| Total | 1,012,000 |
| Daily average | 144,571 |
| At Gulf Coast Ports— | |
| Total Atlantic and Gulf Coast ports | 1,012,000 |
| Daily average | 144,571 |
| Daily average four weeks ended | 99,893 |
| Distribution of total California oil receipts is as follows: | |
| Crude | 419,000 |
| Gasoline | 152,000 |
| Gas oil | 225,000 |
| Fuel oil | 216,000 |
| Total | 1,012,000 |

## CANADIAN FIELDS

(Continued from Page 56)

3w5, has finished camp construction and cellar and is working on derrick.

In the Willow Creek Field, west of Nanton, in the southern foothills, Imperial Oil-Rice Creek, Section 4-14-2w5, is down 4,430 feet and running 6¼-inch casing.

In the Border Field, east of Coutts, Imperial Oil-Erickson Coulee, LSD 13, Section 8-1-12w4, made 65 feet of hole last week and is drilling at 2,035 feet. In the Bow Island Field, Imperial Oil-Burdett No. 1 is reported rigged up, ready to spud in.

In the Turner Valley Field, Royalite Oil Co. No. 5, LSD 13, Section 7-20-2w5, is down 3,235 feet and drilling steadily. Royalite No. 6, LSD 16, Section 13-19-2w5, is down 2,872 feet and is pulling the 12½-inch casing which has been cut up, to replace it with new material.

In the same field, Dallas Oil Co. No. 1, LSD 11, Section 20-19-2w5, which was spudded in on April 22, after several days delay, making repairs, has resumed drilling at 1,800 feet.

Vulcan Oils, Ltd., No. 1, LSD 11, Section 13-20-3w5, is down 4,875 feet and underreaming to put in another joint of casing, this being necessitated by the structure about 50 feet from the bottom just below the bottom of the casing which is hanging in the well. Apparently the well is not yet in the Madison limestone. It has a small gas flow.

### Got Small Flow

Illinois-Alberta Oil & Refining Co., LSD 14, Section 12-20-3w5, is at 3,667 feet. It got the Madison limestone at 3,661 feet and a small flow of light green oil about 2 feet in the limestone. The oil is standing about 800 feet in the hole. The 4¾-inch casing is being firmly cemented before drilling into the lime. The McLeod No. 2, which got the limestone at 3,640 feet, struck a similar oil flow a few feet in, and considerable gas just below it. Both these tests, on the west side of the anticline from Royalite No. 4 and somewhat lower on the structure, got oil and gas showings in the upper horizon. Royalite No. 4 got the limestone at 3,430 feet and blew itself in after the drill had gone another 310 feet. McLeod Oil Co. No. 2, LSD 16, Section 1-20-3w5, has been shut down, awaiting the opinions of an expert on the problem of drilling into the deep lime. Pressure tests indicate it will not be necessary to run 4¾-inch casing, and drilling will likely be resumed next week.

Great West Oil Co. No. 1, SE Section 7-20-2w5, has been held up by a fishing job. the drilling string and three strings of fishing tools being lost in the hole. A new cable was secured, the fishing job successfully completed and drilling resumed at 2,100 feet. Dalhousie Oil Co. No. 3, LSD 10, Section 13-20-3w5, is working on casing at 3,345 feet. Dalhousie No. 1, LSD 4, Section 18-20-2w5, is cementing casing at 3,546 feet.

Home Oil Co., LSD 10, Section 2-19-2w5, is reported drilling at 1,060 feet. Open hole is being run down to 1,150 or 1,200 feet where the 15½-inch casing will be cemented. New Black Diamond Oil Fields, LSD 1, Section 3-20-3w5, has spudded in and is drilling steadily. British Dominion No. 1, LSD 4, Section 5-20-2w5, has shut off the surface water and is drilling at 150 feet. Caving gave a little trouble after drilling through the cement at the bottom of the stovepipe casing at 50 feet, but open hole will be drilled to 250 feet, where the 20-inch will be cemented. Highland Oils, LSD 5, Section 5-20-2w5, is cementing the 24-inch casing in the blue clay around 100 feet to shut off the surface water. Calmont Oils, Ltd., LSD 2, Section 1-20-3w5, is rigged up ready to spud in.

Advance Oil Co. 1, LSD 14, Section 20-19-2w5, is working on casing at 3,200 feet. Advance No. 2, same section, working on casing at 87 feet. Belgo-Canadian Oil Co., Section 4-19-2w5, is rigging up to deepen an old test at 4,327 feet. Big Chief Oil Co., Section 5-20-2w5, is shut down at about 1,000 feet. Cooper-Nation Oil Co., LSD 2, Section 7-20-2w5, is at 50 feet, and drilling. Empress Oils, Section 5-20-2w5, is at 1,128 feet and working on casing. Great West No. 2, SE Section 7-20-2w5, has a derrick up. Hylo Oils, LSD 13, Section 20-19-2w5, is working on camp. New McDougall-Segur, LSD 14, Section 12-20-3w5, is at 95 feet and drilling. New York-Alberta Oil Co., LSD 6, Section 20-19-2w5, is rigging up. New Valley Oil Co., LSD 4, Section 6-21-2w5, has a derrick up. Spooner Oils, No. 1, Section 13-20-3w5, is working on derrick.

### Another Turner Valley Test

Petrol Oil & Gas Co. of Toronto, which has been operating in the southwestern Ontario fields for some years, is planning to drill a test in the Turner Valley Field. James R. Ness, managing director, visited the field recently. Stockmens Oil Co., Section 27-20-3w5, has completed its camp buildings and is working on derrick. A heavy standard outfit is being brought from Fort Collins, Wyo., for the test. Alberta Western Oil Co., organized under Dominion charter with $1,000,000 capitalization and head office at Calgary, will drill a test in the Turner Valley. Officers of the company are: President, R. L. McMillan, High River; vice president, D. E. Riley, High River; directors, F. F. Filteau, G. A. Trainor, John T. Cooper, Calgary; J. V. Drumheller, High River.

Queen City Oil Co., which has several good producing wells in the Kevin-Sunburst Field, has been registered in Alberta preparatory to drilling in the Turner Valley Field. Oklahoma Oils, Ltd., of Calgary has located No. 1 test in the south half of LSD 8, Section 36-20-3w5.

It is reported that a local company is being organized by residents of Ensign, Alta, to drill a test for oil in the vicinity of that town. In the Stevenville district, Eldorado Oil Co. has made a tentative location on the river flats just east of Steveville.

In the Acadia Valley, Fuego Oil Co., Section 34-25-4w4, which recently resumed drilling at 2,375 feet, is reported drilling below 2,500 feet. At Vegreville, a test being drilled by the town for water struck a fair gas flow at 95 feet depth and commercial development may be undertaken.

In the Moose Mountain district, Reserve Oils, drilling on the Morley Indian reserve, is in the Benton shales at 910 feet with traces of oil showing in the diamond drill cores. Signal Hill No. 2, LSD 9, Section 34-23-2w5, has spudded in. Cherokee Oil Co., Section 33-23-5w4, is at 1,664 feet and drilling.

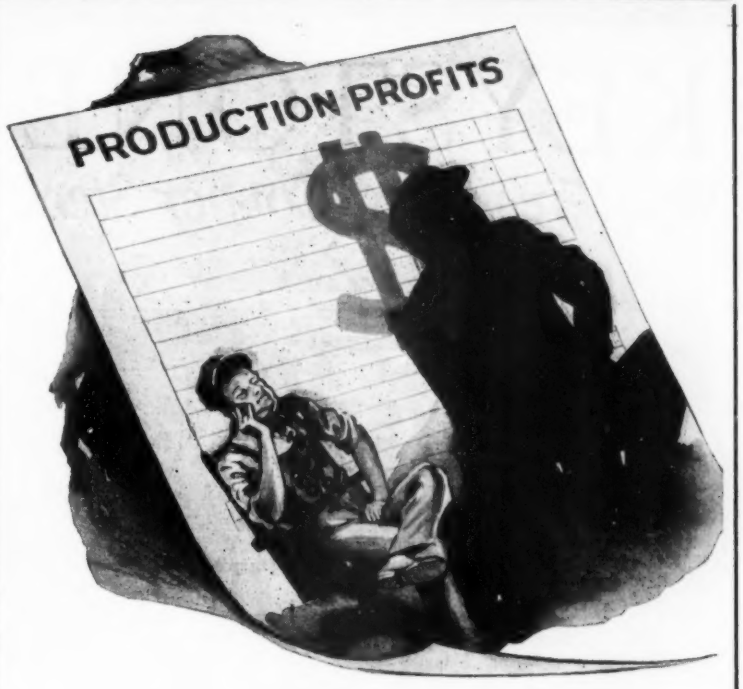
Banner Oils, Ltd., is locating a test on the Sinclair structure in either Section 34 or 35, Township 17-3-w5. Jewel Oils, Ltd., has a location in LSD 6, Section 34-17-3w5.

Two locations have been made in the High River-Aldersyde area. Ranchmens Oil & Gas Co. is doing some preliminary work in LSD 16, Section 13-20-29w4. High River Oils will drill in LSD 11, Section 6-19-28w4. Federal Oil & Gas Co., which operated in the same area in 1914, is reorganizing preparatory to developing leases near Aldersyde, totaling 1,120 acres. In the earlier Calgary boom, this company drilled a test some 4 miles east of Aldersyde to a depth of 2,100 feet, encountering fair showings of gas but no oil. Owing to lack of funds, the test was abandoned and the casing pulled. Some 872 shareholders of the old company are interesting themselves in the reorganization.

### Irma-Wainwright Field

In the Irma-Wainwright Field, east central Alberta, Emerald Oils, Ltd., LSD 8, Section 30-45-6w4, is reported in the oil sand at 2,100 feet and shut down waiting for casing. It is expected the well will be drilled in about July 6. The well is reported flowing by heads. It looks like a good producer. Edmonton-Wainwright Oils, No. 1, LSD 4, Section 29-45-6w4, is being got in shape for production. It is flowing by heads four or five times a day, and a flush production as high as 400 bbls. a day is claimed; a pumping test is being made. Irma Oil Development Co., LSD 16, Section 28-45-9w4, is down 1,600 feet and waiting for a new string of drill stem and tool joints.

British Petroleums No. 5, LSD 4, Section 31-45-6w4, is rigging up for a rotary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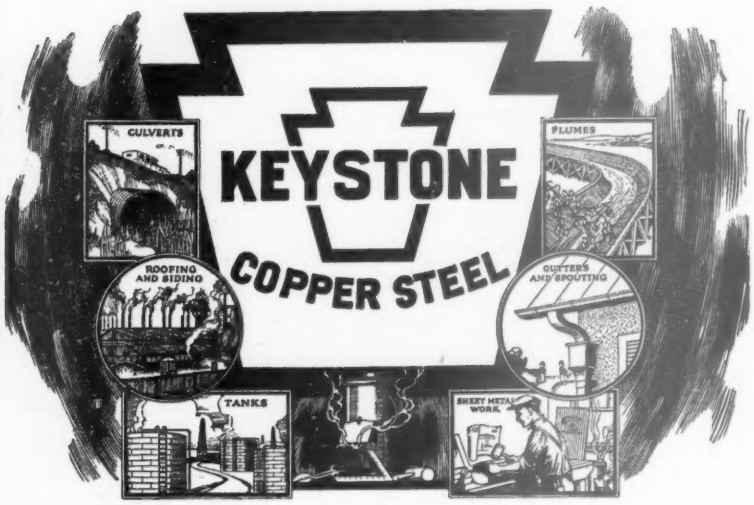


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test. The location is a half mile from the Emerald producer. It is reported that the outfit from the Emerald well will be moved to British Petroleums No. 4, LSD 13, Section 30-45-6w4, to deepen the hole. It is at approximately 2,240 feet and in the lower oil sand; it is planned to drill 250 to 275 feet deeper. Wainwright Dome Oils, LSD 7, Section 31-45-6w4, just east of British Petroleums No. 5, is rigged up ready to spud in. Western Consolidated Oil Co. No. 2, Section 30-45-6w4, is drilling at 300 feet. Further drilling on No. 1 which is at 1,400 feet and shut down is being deferred until No. 2 is finished. Wainwright Petroleums, Ltd., has a derrick up in LSD 6, Section 30-45-6w4, and is moving in a rotary outfit for a test to be spudded in about July 20. National Exploration Co., LSD 1, Section 30-45-6w4, is working on derrick. Palmer Petroleums, Ltd., has a location in LSD 15, Section 29-45-6w4. Toronto Wainwright Oils, Ltd., has spotted a test in LSD 6, Section 29-45-6w4. Anglo-Alberta Oils, LSD 16, Section 19-45-6w4, is working on derrick.

Near Wainwright, Bethlehem Oil & Refining Co. is bringing in timbers for a derrick close to its proposed refinery site. A heavy duty combination rig is being secured for this test, and it is planned to make either No. 1 or No. 2 a deep test of the lower structures in the Wainwright Field. Alert Oils No. 1, LSD 8, Section 11-45-7w4, is doing preliminary work on its site.

Considerable crude is being shipped from the Irma-Wainwright Field, though exact production figures are unavailable. In April and May, British Petroleum No. 3-B, LSD 4, Section 29-45-6w4, shipped 800 bbls. a week to the Alberta Refineries, Ltd., at Edmonton. Edmonton-Wainwright Oils, No. 1, LSD 4, Section 29-45-6w4, is delivering 40 bbls. a day to the Western Consolidated No. 2 for fuel for drilling. The Wainwright crude is a heavy asphaltic oil, and commands prices ranging from 52 cents a barrel for sump oil to $1 a barrel at the well.

Mewasin Oils, Ltd., LSD 7, Section 30-45-6w4, is rigging up, close to the British Petroleums and Edmonton-Wainwright producers. The structure at this point is estimated 8 feet higher than in the Edmonton-Wainwright No. 1.

### Fabyan Area

In the Fabyan area, several tests are geeting under way. Maple Leaf Oil & Gas Co. No. 1, Section 19-45-8w4 has an open flow of 2,500,000 feet a day, and is delivering gas to the C. N. R. roundhouse at Wainwright. Maple Leaf No. 2 has a derrick up about 200 feet north on the same section. Mid-Canada Oils, LSD 4, Section 22-45-8w4, is getting ready to drill. Irwain Oils has a location in the same section. Fabyan Petroleums, Ltd., LSD 8, Section 24-45-6w4, has a rig up. Wainalta Oils, Ltd., has a location in LSD 4, Section 33-45-6w4.

On the Ribstone-Blackfoot anticline, east of the Irma-Wainwright Field, three tests have been located. Imperial Oil, Ltd., will drill Ribstone No. 1 in Section 5-45-1w4. Oxville Oil & Gas Co. has a location in Section 10-45-2w5. Ribstone Petroleums No. 1 has a location in Section 10-43-3w4. Canalta Oils, Ltd., capitalized at $500,000 with head office at Calgary, is making a location. Officers of the company are: President, J. R. Hammill; vice president, E. A. Freeman; secretary-treasurer, A. B. McKay; directors, Tom Campbell, Dr. Alex Fettes.

In the Border Field, Monalta-Johnson No. 1, Section 3-37-4w, close to Sweetgrass on the Montana side, got into the Ellis sand at 2,520 feet, a showing of oil being followed by an intrusion of sulphur water. The drillers are underreaming to set a string of 8-inch casing in order to carry the well to a lower level, where it is hoped to get commercial production. Urban Oils, Ltd., Section 4-1-15w4, on the Alberta side, has finished setting casing and is drilling at 2,986 feet. It is planned to continue the test to 3,500 feet if necessary.

A Lethbridge, Alta., syndicate is being organized to develop the Pot Hole Dome, a structure just south of Lethbridge.

## SOUTHWEST TEXAS

(Continued from Page 54)

west and the other in the southwest corner of the 80-acre block, refused $300,000 for the block. Columbia Petroleum Co. set casing in its No. 7 Bruni. Edgington-Niles' No. 1 Puig, in the southwest corner of Block 65 in the Edgington tracts of the Puig ranch, tested salt water at 1,759 feet. It is a quarter of a mile east of one of George M. Ball's wells in the southeast corner of Block 67 and seems to indicate a limit for the field in that direction. Gibson Oil Corp., with six wells completed and on production in the north 60 acres out of the west half of Block 13, will bring in several wells this week. Gibson has nine rigs running and will probably have the lease drilled up within another two weeks. Trussel & Cezeau have abandoned their location in Block 39, 2 miles east of production.

Associated Oil Co. is drilling at 2,000 feet in its No. 1, in the northeast corner of the south half of Block 44, that was reported as a dry hole at the regular depth of the field. As a matter of fact it got a little oil at 1,700 feet and an estimated 10-bbl. well at 1.744 feet, but had water trouble and is drilling deeper.

Crown Central Petroleum Corp.'s No. 10 Garcia, Lot 56 of Survey 606, in the older part of the field. is drilling at 825 feet on a deep test. Jackson and others, drilling at 900 feet in No. 1 Garcia on Survey 606, located 150 feet from the south and west lines. Laredo Oil Co., on Survey 457 at Mirando City, tested a small amount of oil at 1,645 feet. Layne and others have abandoned No. 1 Lopez on Survey 309, south of the Bruni tracts at 2,110 feet. O. W. Killam is drilling at 1,300 feet on Survey 309, located 150 feet from the north and 1,300 feet from the west lines.

### Carolina-Texas Field

The feature of the week in all southwest Texas was the Associated Oil Co.'s No. 2-A Wester on Survey 684 in the Carolina-Texas gas field that at 2,603 feet looks like a big flowing oil well, the first in that field and opening a new oil pool. Maurer & Duggan are preparing to drill on Survey 267 west of the Carolina-Texas gas field. Haslitt-Simmons Corp. has two locations made in Survey 268, one on Block 9 and the other on Block 16. J. H. Winch, who recently completed a gas well on Block 12 of Survey 336, is drilling No. 2 de la Garsa on the same block and is down 1,500 feet. Houston Gulf Gas Co. is bailing at 2,004 feet in No. 1 Barnsley on Block 9 of Survey 268. The same company has a derrick up for its No. 2 on Block 15 of the same survey. Associated Oil Co. has a derrick up for No. 3 Webster on Survey 684, the location being 450 feet from the west line and 1,110 feet from the north line. U. S. Gas & Oil Co.'s No. 1 Benavides on Survey 679, a half mile east and a little north of the Associated Oil Co.'s oil well, is resuming drilling at 2,100 feet and will probably go down to the 2,600-foot sand of the Associated well. Daniels & Best are drilling at 490 feet in No. 1 Webster in Survey 684, located 1,470 feet from the west line and 150 feet from the north line. It is a little northwest of the Associated well.

### Cole Gas Field

In the Webb County end of the Cole gas field Cole Petroleum Co. is rigging up with heavier rig to carry its No. 23 on Block 9 of Section 8, down from 2,410 feet. Cole has a fishing job on No. 10-A, a deep test on Block 5 of Section 3, and is down a few hundred feet on No. 9-A on Block 7 of Section 753. O. W. Killam is testing his No. 1 Lopez on Block 9 of Section 319, a little north of the Cole Field.

Among the wildcats in Webb County, National Refining Co. is rigging up on Section 699, about midway between the Carolina-Texas and the Cole gas fields. Burns & Malone are drilling at 2,850 feet in No. 1 Coe on Survey 51, southwest of the Carolina-Texas Field. Lane-Texas Co. is drilling at 2,026 feet on a well in the edge of the townsite of Laredo. W. C. Ritchison is drilling at 2,190 feet in the A. S. Billings No. 1 in Section 71, several miles northeast of the Carolina-Texas

Field. Benedum & Trees have a location for No. 1 Billings in Section 10, also several miles northeast of the Carolina-Texas Field.

In the Duval County end of the Cole gas field, Barkley-Meadows & Morgan have spudded in their well in the 22-acre piece out of the south part of Survey 323, 1¼ miles north of the Cin-Tex discovery oil well and are drilling at 200 feet. George M. Ball's wildcat well, 3 miles east, is drilling at 2,300 feet. Cole Petroleum Co.'s is testing at 1,970 feet in its No. 25 Benavides on Block 1 of Section 18. No. 26, which offsets Cin-Tex No. 7 oil well, is plugging back and will test out the 35 feet of gas sand at 1,744 feet. Houston Oil Co. is setting 4½-inch casing to test a sand at 2,716 feet in its No. 3 which was deepened from the 1,785-foot sand that was found dry. Houston Oil Co.'s No. 5 on Block 1 of Section 17 after some delay is on the pump and making 50 bbls. of oil a day.

**Piedras Pintas Field**

Humble Oil & Refining Co. was getting ready to set casing in No. 5 Walsh which put in a whipstock and drilled through the casing in a plan to test at 3,300 feet. Humble's No. 6 Walsh is drilling at 2,224 feet. Magnolia is shut down in its No. 1 Speer at 3,710 feet with some boiler trouble. Humble's No. 9 Singer on Survey 4, several miles to the northwest of the Piedras Pintas area, is rigging up. Humble is also rigging up on No. 5 Schallert in Survey 255. Simms Oil Co. is in an oil sand at 3,607 feet in its No. 1 Schallert.

**Duval Wildcats**

Humble Oil & Refining Co.'s No. 1 Dowdy (fee) in northern Duval is drilling at 1,718 feet. Murchison & Fain is drilling at 2,100 feet in gumbo and shale in its No. 1 Peters, in Survey 791. Benedum & Trees are drilling at 3,000 feet in No. 1 Southerland in the western part of the county on Survey 182. Maurer & Duggan in Willie Hoffman No. 1 are drilling at 3,554 feet, the location being a few miles northwest of the Palangana salt dome. Graham is arranging to test in No. 1 Beall in the northeast corner of Duval County at 2,605 feet. Moody Oil Corp. on the Mesquite ranch in Block 29 of Survey 1, located 1½ miles southeast of the Cole gas field, has set casing at 1,970 feet in a sand that showed a little oil in the core. It is shut down until July 6 when it will be drilled in and bailed. O'Hern, Putnam & Seacord are drilling at 251 feet in sand rock in No. 1 Benavides on Block 12 of Survey 174, about 5 miles south of the Cole Field. They have a 112-foot California type derrick extra heavy and a big rig and are planning an extra deep test unless good production is obtained at less depth.

**Medina County**

Henderson & Holden completed their No. 4 Adams in Medina County, 2 miles south of the Ina oil field last Saturday and it gauged 15,000,000 feet of dry gas, total depth of well 915 feet. This well is 2,000 feet south of the Nos. 1 and 2 and No. 3 is about 1,600 feet north of Nos. 1 and 2. No. 1 gauged 9,200,000, No. 2 gauged 13,000,000 feet and No. 3 gauged 6,700,000 feet. This is the first gas of any considerable and important amount found in Medina County and ever since the first well was brought in oil men have been looking to see oil found somewhere around there. Tarver & Sprague who drilled a mile east and got a showing of oil at 1,127 feet, were unable to complete a commercial well and are abandoning the test and will move to the northwest and drill again. They are playing the same structure that Henderson & Holden are playing. Some believe their first test was an edge well and a little to the northwest will get the oil.

Alamo Drilling & Leasing Co. has abandoned at 840 feet the shallow test drilled north of the Ina Field on the Graff land in the expectation of picking up a Serpentine bed. The Maxwell & Turman well, 4,000 feet southeast of it got quite an amount of Serpentine but no oil. Alamo got an entirely different log and no Serpentine or showing of oil or gas. It is probable another test will be made there on a new location. The rig, however, is being moved now to the Kennedy ranch in the western part of the county near the county line for an Edwards lime test, the location being a half-mile south of the Sabinal road.

Arnett Oil Co. spudded in last week on the No. 4 Nixon, 2,100 feet southeast of No. 2 and on a separate tract. Golden West has rigged up on its No. 5 Schmidt in the Ina Field. Since Golden West bought the Eastham & Tarver property it is the principal owner in the field. Medina Oil Co. has completed No. 6 Taylor, 300 feet southwest of No. 5 and it is estimated at 15 bbls. on the pump at about 350 feet depth. It is 600 feet southwest of the No. 1 or discovery well that pumped when it first came in some months ago 100 bbls. a day at 356 feet depth.

**Preparing to Drill**

Wharton of Wichita Falls is preparing to drill on the Finger tract southwest of Hondo several miles, the contract calling for starting operations by July 17. Kittle & Townley, who cored a showing of oil in sand at 960 feet in No. 1 Bendele on Survey 593, 8 miles southwest of Hondo, are trying to shut out some water in order to make a test. Pat Armstrong is rigging up northwest of Hondo for a test on the King land and a test is also to be made on the Lacey land near by. North & South has spudded in on the Odom test north of the Medina Oil Co. shallow wells, for an Edwards lime test.

Ina Oil Co.'s test on the Finger tract a few miles west of its Hoffman test is drilling at 500 feet. California-Medina Oil Co.'s No. 1 Rothe in western Medina is working with casing that parted in the hole. Crew is trying to pull it. Cecil Switzer, on the Zerr tract, is drilling below 1,700 feet. Schermerhorn Oil Co.'s No. 2 Irrigation Co. land is drilling at 1,208 feet, a little southeast of Noonan on Survey 31. McCaldin's No. 1 Thompson, on Survey 402, a little west of Devine, is drilling below 2,200 feet and has not yet topped the hard chalk. Gibson Oil Corp. is changing to heavier rig on No. 1 Carpenter, on Survey 808 southwest of the Ina Field at 1,200 feet and in the Southoff No. 1 in the western part of the county on Survey 847 at 530 feet and each will drill to the Edwards lime. Golden West's wildcat test on the Joseph Courand tract, southwest of Castroville, is drilling at a little below 265 feet.

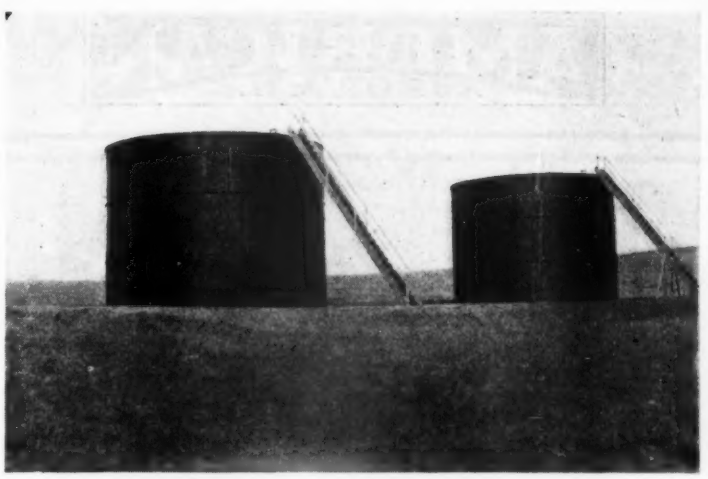
**Milam County**

J. W. Allen's No. 1 Joe Brown, in Milam County, a few miles west of Rockdale, is drilling at 2,314 feet. It topped the chalk as identified by Udden of the State University, at 2,070 feet and is running 785 feet higher than the Kime well of the Magnolia 3½ miles south of it which was drilled last year and got a showing of oil and created considerable excitement. The Texas Company, a mile south of Allen, is drilling at 1,400 feet. Alexander and Lyles abandoned their No. 1 Seelke at 3,422 feet and in the Edwards early last month and are arranging for another test. They will likely drill north of the Texas test.

**Jim Hogg County**

Magnolia Petroleum Co.'s No. 6 Merchant State Bank in the northwest corner of Survey 415 and immediately south west of production in the Randado Field in Jim Hogg County tested and showed gas at 1,233 feet and is drilling deeper. Magnolia is drilling Nos. 5 and 6 Palacious in Block 7 of Survey 291 on the east edge of present production in the Randado Field. Wheelock & Collins' No. 3 Palacious in the northeast corner of Block 21 of Survey 291 came in swabbing at the rate of 600 barrels a day of oil.

Location has been made for the No. 4 Palacious 300 feet west of No. 3. Simms Oil Co.'s No. 1 Weil that extended the field three-quarters of a mile to the north is on the pump and making 150 barrels a day. Grayburg is rigging up in the southwest corner of Block 15 of Survey 81 about two locations to the east of the Simms No. 1 Weil, which is in Block 16 and Andrews Petroleum Co. is fixing to start drilling a little to the west and south of No. 1 Weil and C. O. Maddox

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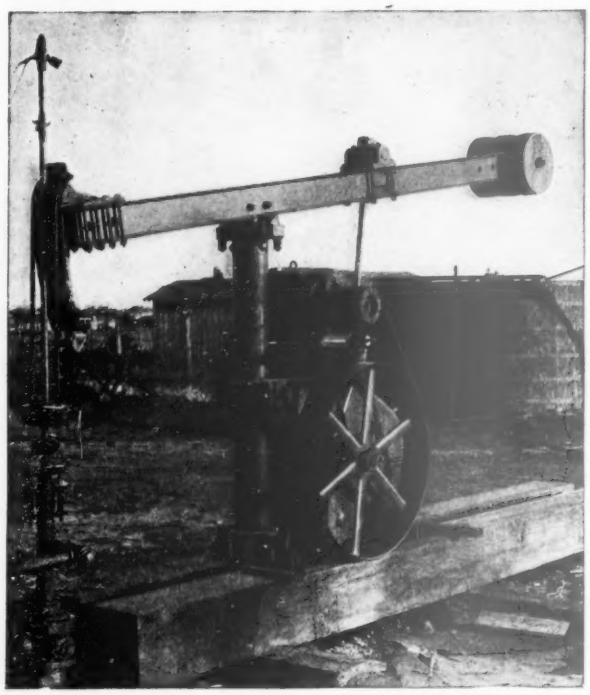

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is rigging up immediately south. Simms is rigging up for No. 2 which is 300 feet west of No. 1 Weil. Simms' No. 5 Palacious in the southeast part of the northwest quarter of Survey 291 is pumping 150 barrels and No. 6 is pumping the same amount. No. 7 located 300 feet north of No. 4 is drilling.

Houston Gulf Gas Co.'s No. 10 Palacious in Survey 291 on Block 20 located 450 feet from the north line and 150 feet from the east line is in and swabbing at the rate of about 500 barrels a day. It is in the northeast southwest line of the good producers of the field. Moody Oil Corp. is rigging up for a wildcat test in Block 13 of Survey 287, about 1½ miles east of nearest production in the Randado Field. Some have the belief that production will extend some distance back to the northeast towards the escarpment. Moody Oil Corp.'s tests in the Randado area include No. 1 Palacious which is flowing about 400 barrels a day through a choke, No. 2 which is pumping 200 barrels a day with the sand topped at 1,249 feet, No. 3, flowing about 300 bbls. a day through a choke and No. 4 pumping approximately 300 bbls. a day. All are on Block 14 except No. 3 which is on Block 11. The same company's No. 5 on Block 20 which was reported last week a gas well making about 60 bbls. of oil has been deepened and has reset casing and is ready to test. No. 6 Palacious on Block 20 has set casing at 1,242 feet and is ready to drill in. No. 7 Palacious on Block 22 of Survey 291 has spudded in 150 feet from the north and west lines. No. 8 is one location east of No. 3 in Block 11 and has spudded in.

**Now Making Oil**

Morgan Oil Corp.'s No. 1 in the southeast corner of Block 12 of Survey 291, located 150 feet from the south and east lines, which came in a few weeks ago a gas well and which seemed to define the gas line, has gone to making oil and is now flowing about 100 bbls. of oil through a separator. The gas from the well was used in firing boilers in the field. Johnson and others (American Well & Prospect Co.) have three wells in the field with casing set at 1,250 feet, 1,251 feet and 1,256 feet, all ready to come in, all in the west end of Block 14 of Survey 291.

**Jim Hogg Wildcats**

Hoad and others are rigging up on No. 1 Palacious on Block 247 of the El Randado Grant. It is about 5 miles southeast of the Randado Field, O'Byrne and others are rigging up on Block 14 of Survey 230, 2½ miles south of the Randado Field, for a wildcat test. Simms is drilling deeper in No. 1 Leyendecker on Survey 143. Murchison & Fain have abandoned their No. 1 Yeager on Survey 452 in the northwest corner of Jim Hogg County at 2,505 feet. It got only slight showing of oil in one sand at 1,890 feet.

Benedum & Trees have abandoned all three wildcat tests on the Wilbur Allen ranch a few miles south of the Randado Field, the depths being 2,350 feet, 2,510 feet and 3,720 feet. They had some fairly good showings in fairly good sands. Simms Oil Co. is rigging up for a test on Block No. 2 of Section 23 of the Wilbur Allen ranch.

**Henne, Winch & Fariss Pool**

O. W. Killam has a derrick up for No. 2 Mann-Hinnant in Block 4 of Survey 256 of the Henne, Winch & Fariss Pool. Kitselman & St. Albans are drilling at 1,900 feet in No. 3 Holbien, have the derrick up for the No. 4 (T. P.) Holbien, drilling at 800 feet in No. 38 Holbien, moving in tools for No. 39 Holbien, drilling at 1,700 feet in No. 40 Holbien and have spudded in No. 41 Holbien. Locations of all have been previously given. Associated Tide Water is drilling at 400 feet in No. 1 Lopez on Block 20 of share No. 1 of the Las Animas Grant. Magnolia is testing at 2,083 feet in No. 9 Martinez, rigging up in No. 10 Martinez "B," has a derrick up for No. 11 Martinez "B," and has abandoned the location of No. 12 Martinez on survey 256 in block 7, located 150 feet from the south and west lines.

**Atascosa County**

Plateau Oil Co. is drilling at 932 feet in No. 1 Tomlin in northwestern part of Atascosa County, 2 miles west of Anchorage in wildcat territory. Witherspoon Oil Co. on the Turpe tract, a little south of the rim of production in the west end of the Somerset Field, is drilling at 1,573 feet and expecting if it gets production above the Austin chalk to get it in the next few hundred feet. W. G. French's wildcat test on the Jaksik tract in the northeastern part of Atascosa County at Lemmberg is waiting on a rig with the derrick up.

**Bastrop County**

Amerada Oil Corp. is drilling at 1,400 feet in the test near Cedar Creek in southwestern Bastrop County.

**Bee County**

Benedum & Trees have abandoned their No. 1 Goree in Bee County near Mineral at 3,420 feet. After taking a core a boulder fell on the drill stem and in pulling it the derrick was pulled in. Derrick was rebuilt and the drill stem pulled and core showed dry sand.

**Bexar County**

Marland Oil Co. is drilling at 2,400 feet approximately in No. 1 Mihalski in eastern Bexar County, a mile north of St. Hedwig, in the Glenrose and has found the line sandy and porous at places but thus far carrying water or dry. Utah Texas Oil Co.'s No. 1 Ivan Vick, 12 miles south of San Antonio, is at approximately 2,900 feet and fully 100 feet into the Edwards. It is admittedly not encouraging and will probably soon be abandoned. It had a good elevation and structure but the Edwards is barren of oil production there. W. E. Rutledge is drilling at below 700 feet in No. 1 Brooks one mile north of Cassin and 10 miles south of San Antonio. W. R. Hamilton has spudded in No. 12 Hughes in the western extension of the Somerset Field and is preparing to drill somewhat to the north. No. 12 is surrounded by production but the test to the north will extend the field if it is a producer. Jonray Oil Co. has purchased 120 acres of leases in the Somerset Field, a mile south of the town of Somerset, from Martin Brothers including several producing wells. The same company has abandoned No. 1 Sueltenfuss in the Southton Pool a few miles south of San Antonio and has spudded in No. 2 Sueltenfuss. Humble Oil & Refining Co. has abandoned its No. 1 Yturri southeast of San Antonio and a little east of where it drilled two wells on the Minna Coreth. No. 1 Yturri reached a total depth of 1,635 feet and went 133 feet into the Edwards and had a slight trace of gas but no oil or water. Storey & Stieren's No. 1 Cover in the southeastern part of Bexar County topped the Edwards at 1,900 feet and has been drilling in the Edwards for a couple of days with no showings of importance thus far. George E. Ginter is rigging up on No. 9 at Southton Field on the Cotton Mill land 300 feet west of his No. 8.

**Brooks County**

Ballard & Underwood are standing at 1,600 feet in No. 1 Lassiter in northeast Brooks County on the Falfurrias salt dome area.

**Caldwell County**

John T. Storey in Caldwell County, south of Dale where several tests have been made to get production on a wildcat structure is drilling at 441 feet and on a rock. Another test is being negotiated by other parties farther to the south.

**Edwards County**

X. K. Staut's No. 2 Peterson in Edwards County has set 12½ inch casing at 800 feet and is now drilling at 1,000 feet. Cable tools are used. The well is the only wildcat in Edwards at this time but considerable acreage is being blocked in that county.

**Frio County**

Wiley Wyatt's No. 1 Fain in Frio County, 5 miles east of Pearall County, has collapsed casing at 205 feet and is using a wedge to straighten it. He has also spudded in No. 1 Barnhart, 1 mile nearer Pearsall, and is drilling at 150 feet. Mr. Wyatt, a Wichita Falls operator, has bought considerable land in fee around his tests.

**Fayette County**

G. W. Page and George W. Zeigin, representing an English syndicate have spud-

ded in a test on the Rosa Russek farm in Fayette County, 1 mile northwest of Schulenberg, and have erected a steel derrick for a deep test. W. R. Julien, geologist, who located some production for the same interests in the Shreveport territory made the location.

**Karnes County**

Earl B. Reynolds has spudded in his No. 2 Butler in Karnes County, 4 miles west of Runge, and 1,000 feet south of his first test.

**LaSalle County**

DeLange, Eiser Development Co.'s No. 1 Dobie (fee) has been unable to complete the test in southeastern La Salle County due to mud and shale heaving into the 12½ inch casing. A 6-inch bailer is being sent out to be used to clean the well. It is still making considerable gas and will burn a steady flame. Total depth is 482 feet.

**McMullen County**

Sights and others' No. 1 Franklin, a little north of Tilden, the county seat of McMullen, was underreaming at 1,600 feet expecting to set casing at 2,200 feet for a test with a gas and oil showing when the well blew out. It was mudded in and a string of smaller casing will be set to make the test. George M. Ball on the Kuykendall a few miles to the west is using cable tools and taking cores at least every 10 feet which are being identified at Austin by the State University. It is down approximately 500 feet and while not making much progress is getting information of value to the industry on McMullen County. Houston Gulf Gas Co. has abandoned at 2,000 feet its No. 4 Jacobs a few miles northwest of the Calliham oil field. It plugged back and made a test at 1,600 feet but failed to make a well and will make a new location.

**Refugio Gas Field**

Houston Gulf Gas Co. is completing a new well in the Refugio gas field at 1,850 feet and Bartlett et al of Corpus Christi are completing one at 1,600 feet. each in a new sand not heretofore found productive. Several wells producing in the 2,400-foot sand ran wild and pressure has been greatly reduced in that sand. The finding of new sands promises to give new life to the field. Both Houston Gulf Gas and Houston Oil Co. are piping the gas to Houston. Houston Gulf Gas No. 1 Shelly picked up a new sand recently at 2,050 feet.

**Starr County**

Ramsey-Maxey Oil Co. is drilling at 700 feet in No. 1 Kelsey on Survey 78 in Starr County and O. W. Killam is drilling at 2,000 feet in No. 1 Guerra in Survey 43.

**San Patricio County**

John Sigmund's No. 7 McCampbell at Aransas Pass in San Patricio County is drilling at 3,935 feet in tough gumbo.

**Wilson County**

Humble Oil & Refining Co. is rigging up on No. 1 D. A. Sellen in the Joseph Reynolds Survey, 7½ miles northeast of Floresville in Wilson County, and is nearly ready to spud in. This is practically the first time one of the big major companies has invaded Wilson County. There is said to be one of the most pronounced fault lines in Southwest Texas in that territory and the location for the well is based on the fault. Grayburg Oil Co. is tearing down the rig and abandoning No. 1 A. W. Irwin in southwestern Wilson County at 2,280 feet. It failed to reach the chalk.

**Zavala County**

Continental Oil Co.'s No. 1 Pryor at 3,503 feet has completed arrangements to deepen. Rig has been repaired and some minor supplies are being waited for before spudding in. The test was planned as a test of the Glenrose and got but a little ways into the Glenrose when the contract depth was reached and the sand that was being looked for had not been picked up. It will be deepened till this sand is found.

## OKLAHOMA FIELDS

(Continued from Page 42)

NW NW, Section 13-12-11. Josey Oil Co. has a rig on the ground for No. 1 Jacob, SW cor. SE SW, Section 28-12-11. The rig is up for No. 16 McCoy, C NW SW, Section 33-12-11. Frank Havel has the rig up for No. 1 Likowski, NE cor. SE SW, Section 23-11-11. The Carter Oil Co. has spudded No. 1, SW cor. SE NW, Section 23-11-11.

**Stephens County**

Homa-Okla Oil Co.'s No. 1 Findley, C SW NE, Section 19-2-9w, is cleaning out to drill deeper. Magnolia Petroleum Co. has a dry hole in No. 1, SW cor. SE, Section 26-2-9w, which is abandoned at 4,555 feet. No. 3, SE cor. NE SW, Section 30-2-9w, had sand at 1,750-51 feet and is pumping 5 bbls. of oil and 3 bbls. of water. Petroleum Producing Co.'s No. 1, SE cor. SE, Section 11-1-8w, is dry at 2,561 feet. Priddy and others' No. 4 Hart, NE cor. SW SE, Section 24-1-9w, is drilling at 250 feet.

Lone Star Gas Co.'s No. 7, SE cor. SW SE, Section 22-1s-5w, had sand at 628-650 feet and pumped 20 bbls. Mid-Kansas Oil Co.'s No. 7, SW cor. NE SW, Section 19-2s-7w, is dry at 1,867 feet.

**Seminole County**

Searight and the Carter Oil Co. are drilling at 650 feet in No. 3, NW cor. NE SE, Section 33-10-6, Seminole County. The Tidal-Osage Oil Co. has a rig on the ground for No. 3, NW cor. NE SW, Section 24-9-6. Independent Oil & Gas Co.'s No. 2 McDaniels, NW cor. NE NE, Section 7-9-8, is rigging up. Atkins & Newman have a rig on the ground for No. 1 Brown, NE cor. SE NE, Section 24-9-8. Prairie Oil & Gas Co. and others have a rig up for No. 1 Harjo, C SW SE, Section 11-7-8.

Sinclair Oil & Gas Co. has a rig on the ground for a shallow test in No. 9 Wisner, NE cor. NE, Section 4-10-8, Seminole County.

**Lincoln County**

Magnolia Petroleum Co. has built the rig for No. 3 Kilgore, NE cor. SW, Section 8-15-6, Lincoln County. Mid-Continent Petroleum Corp. has a rig up for No. 8 Earp, SE cor. NW, Section 8-15-6, and also for No. 9 Earp, NW cor. SE NW, Section 8-15-6. Phillips Petroleum Co. has built the rig for No. 1 Varner, NW cor. SE, Section 8-15-6, and the Prairie Oil & Gas Co. has rig up for No. 1 Selby, SW cor. NE, Section 8-15-6.

In the Davenport Pool, The Texas Company's No. 3, NE cor. SE SE, Section 2-14-5, had sand at 3,409-45 feet and made 5 bbls. naturally. It was shot with 100 quarts and then made 15 bbls. The Pure Oil Co.'s No. 2, SE cor. SE, Section 4-14-5, had sand at 3,461-69 feet and made 25 bbls. naturally. It made 75 bbls. after a shot of 15 quarts.

Barnsdall Oil Co. has spudded No. 1, SE cor. SW, Section 8-12-5.

Olean Petroleum Co. is drilling at 250 feet in No. 1, SE cor. NW NE, Section 18-16-4.

**Grady County**

Skelly Oil Co. is drilling at 300 feet in No. 4, NW cor. NW, Section 23-5-8w, Grady County. Magnolia Petroleum Co. is drilling at 450 feet in No. 1, NW cor. SE, Section 35-5-8w. Gant and others are drilling at 150 feet in No. 1-A, C NW NE, Section 19-5-7w. Winkler & McQueen have a dry hole at 2,935 feet in No. 1, NE cor. NW NE, Section 24-3-6w.

Garvin Drilling Co. and others have a failure in No. 1, SW cor. NW, Section 5-3-5w, which is abandoned at 2,814 feet. The Carter Oil Co.'s No. 1 Harrison, SE cor. NW SE, Section 21-3-5w, had sand at 1,759-79 feet with 2,500,000 feet of gas and 62 bbls. of iil.

Garvin Drilling Co. and others' No. 1, SW cor. NW SE, Section 27-3-5w, had sand at 1,372-83 feet and pumped 18 bbls. of oil and 15 bbls. of water. Carter Oil Co.'s No. 1, NW cor. NE, Section 34-3-5w, had sand at 1,349-60 feet and pumped 25 bbls. in 24 hours. Magnolia Petroleum Co.'s No. 1, NE cor. NW, Section 34-3-5w, is drilling at 1,400 feet. Nicholos and others have a rotary rig up for No. 1 Ridley, C NE SE, Section 26-4-8w. Ted Harris and others are drilling at 700 feet in No. 2, SE cor. SW NE, Section 11-4-8w.

**Pawnee County**

Shortgrass Oil Co.'s No. 1, SW cor.


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NW NW, Section 18-20-8, is dry and abandoned at 3,108 feet. Minnehoma Oil Co. has the rig up for No. 8 Wrightsman, NW cor. NW, Section 24-21-7. The rig is built for No. 2 Childer, CNL SE NW, Section 7-20-8. Prairie Oil & Gas Co. has built a rig for No. 9 McNeal, NE cor. NW, Section 10-20-8. Sinclair Oil & Gas Co.'s No. 11, SW cor. NW NE, Section 10-20-8, is drilling at 980 feet.

**Comanche County**

Dell Green and others' No. 1, NW cor. NE SW, Section 14-1-12w, Comanche County, is dry at 1,400 feet.

**Love County**

Schermerhorn-Ardmore Oil Co.'s No. 1, NE cor. NW NW, Section 2-6s-1, Love County, is spudded.

**Pontotoc County**

Jack Lloyd and others are drilling at 450 feet in No. 1, NW cor. SE NE, Section 4,3-6, Pontotoc County.

**Garfield County**

Penders Oil Co. is drilling at 1,350 feet in No. 2, NE cor. SE SE, Section 5-21-3w, Garfield County.

**Noble County**

Elaine Oil Co.'s No. 1, C SE, Section 33-22-2w, Noble County, is flowing 2 bbls. an hour from a total depth of 4,954 feet. Sand record is not available. Magnolia Petroleum Co. is drilling at 650 feet in No. 3, SE cor. NW SW, Section 15-21-2w. Prairie Oil & Gas Co. and the Bu-Vi-Bar Petroleum Co.'s No. 1, NW cor. SW, Section 28-21-2w, is dry and abandoned at 5,408 feet.

**Kay County**

The Carter Oil Co.'s No. 5, NE cor. NE, Section 21-25-2w, Kay County, had sand at 2,576-96 feet and swabbed 15 bbls. daily. It will be shot.

Parkhurst and others have spudded and shut down in No. 1 Eaton, SE cor. SW, Section 3-28-3. Jamieson & Mummert have moved in a rig for No. 1 Witterwood, NW cor. SE, Section 26-27-2.

**Rogers County**

The Texas Company's No. 1, SE cor. NE, Section 16-22-14, Rogers County, had a hole full of water at 1,475 feet and was plugged back to sand at 1,220-35 feet and saved 3,000 000 feet of gas.

**Payne County**

The Texas Pacific Coal & Oil Co.'s No. 1, SE cor. NE SE, Section 22-18-3, Payne County, had sand at 4,268 4,309 feet and made 60 bbls. No. 2, NE cor. SE, Section 22-18-3, made 160 bbls. from sand at 4,305-27 feet. Deep Rock Oil Co.'s No. 4, SE cor. SW SW, Section 23-18-3, had sand at 4,233 35 feet and made 260 bbls. No. 5, NW cor. SW, Section 23-18-3, made 70 bbls. in 12 hours from sand at 4,211-13 feet and is still drilling. M. T. C. Oil Co.'s No. 3, NW cor. NE NW, Section 26-18-3, made 27 bbls. from the Bartlesville sand at 3,703-65 feet.

Magnolia Petroleum Co. has spudded No. 1, SE cor. NW SW, Section 8-19-5. Pure Oil Co. has spudded No. 2, SE cor. NW SE, Section 10-19-5,

**Pottawatomie County**

Magnolia Petroleum Co. has built the rig for No. 1, NW cor. NW, Section 20-7-5.

**Logan County**

Fisher and others have abandoned the location for No. 1, SW cor. NE, Section 11-18-3w, Logan County. Myers & Monahon have a rig on the ground for No. 1 McMillan, NW cor. SW, Section 24-15-3w.

**Texas County**

In Texas County, in the Oklahoma Panhandle, Valerius Oil & Gas Co.'s No. 1, NW cor. SW, Section 18-3-12, (Cimmaron Meridian) is milling up a wall hook at 2,130 feet. No. 2, SE cor. SW, Section 32-5-12, is shut down to repair bullwheels after a good showing of oil was found at 2,330 feet. H. F. Wilcox Oil & Gas Co.'s No. 1 Zea, SW cor. SE, Section 28-3-13, is fishing at 3,004 feet. No. 1 Hovey, SE cor. SE, Section 21-4-14, is drilling by a bit at 3,032 feet. Reiter-Foster Oil Co. and Brann are fishing at 2,100 feet in No. 1, NE cor. NE, Section 10-2-11. Reiter-Foster No. 1, in Section 9-3-15, is fishing at 1,340 feet. Allison, Garber & Pulse are fishing at 1,000 feet in No. 1, in Section 4-1-12.

**Wagoner County**

Summerville and others are drilling at 750 feet in No. 2 Kelly, NW cor. NE NE, Section 6-17-15, Wagoner County.

## N. LOUISIANA-ARKANSAS

(Continued from Page 46)

at 2,114 feet at No. 3-B Goodwin. A derrick is up in the SE cor. NW SW, Section 15-17-16, for Rovenger's No. 4 Harrell.

Arrangements are being made to deepen Simms Oil Co.'s No. 4 S. Cook, Section 16-16-15, which was formerly completed at 2,363 feet as a 30,000,000-foot gasser. Six-inch casing was cemented at 2,601 feet at Simms' No. 3 Murphy, Section 15-16-15. Arrangements are being made to deepen Skelly Oil Co.'s No. 2 Hall, Section 9-16-16, from 2,104 feet. Southern Crude Oil Purchasing Co.'s No. 1 Pumph, Section 8-16-16, is drilling at 1,650 feet. Southern's No. 3 Slaughter, Section 3-17-16, has 500 feet of oil in the hole from sand at 2,065 to 2,100 feet and No. 4 Slaughter is drilling at 1,000 feet. Southern's No. 4-A Wells, Section 15-16-15, is drilling at 2,455 feet and No. 4-B Wells, NW cor. NE NW, is a derrick. A short string of 4½-inch casing was cemented at 2,542 feet at Standard Oil Co.'s No. 11 McClannahan, Section 6-16-15, and the plug is being drilled out. A rig is up for Stewart and associates' No. 5 Murphy, SE cor. NE SW, Section 9-16-15. Sun Oil Co.'s No. 9 Brown, Section 8-18-15, is coring at 2,970 feet. Sunny Jim Oil Co.'s No. 7 Lawton, Section 10-16-15, completed a few weeks ago at 2,594 feet as a 60-bbl. pumper, 25 per cent salt water, is being cored at 2,712 feet. A derrick is being built for The Texas Company's No. 4 C. L. Saxon, SW cor. SE NW, Section 4-16-16, and a rig is up for Walber and associates' No. 2 Cordell, SW cor. E half SE NE, Section 6-18-13. Williams and associates' No. 3 Goodwin, Section 16-16-14, is drilling at 2,057 feet. Wingfield and associates' No. 1 Galligher, Section 10-17-17, is coring at 2,098 feet.

**Ouachita County**

Ouachita County moved from its state of inaction, so far as completions were concerned, and turned in six last week. Standard Oil Co.'s No. 9 Murphy, Section 29-15-15, is pumping 180 bbls. daily from sand at 2,601-16 feet. Ohio Oil Co.'s No. 8 Goodwin, Section 29-15-15, was completed for a 100-bbl. pumper at 2,599-2,608 feet. Buffalo Oil Co.'s No. 4 Morgan, Section 22-15-19, was good for a 75-bbl. pumper in sand at 1,551-56 feet. Sunny Jim Oil Co.'s No. 1 Hicks, Section 27-15-16, was abandoned with the casing in the hole at 2,284 feet. A shot at 2,374 feet brought a greater volume of water in the hole at Unity Petroleum Co.'s No. 6 Umsted, Section 33-15-15, and it was abandoned. The rig was moved off and Gossett and associates' No. 1-A Thompson, Section 22-15-19, was abandoned at 1,498 feet.

Gulf Refining Co.'s No. 19-A Umsted, Section 33-15-15, is drilling at 1,000 feet and a rig is up 800 feet south and east of the center of Section 33 for No. 20-A Umsted. Humble Oil & Refining Co.'s No. 3 Moline Timber, Section 9-12-17, is drilling at 500 feet. Four and one-half inch casing was cemented at 2,275 feet at Imperial Oil & Gas Co.'s No. 4 McClanahan, Section 6-16-15. A derrick pattern is on location for W. R. Keever's No. 2 Neeley, SW cor. NE SE, Section 27-15-16. Six-inch casing was cemented at 2,249 feet at A. Meek's No. 1 Clawson, Section 35-15-17. Six-inch was cemented at 1,973 feet at Ohio's No. 14 Mullen, Section 27-15-16.

Phillips Petroleum Co. is arranging to deepen two old wells, No. 5 Johnson, Section 34-15-15, completed in June, 1925, at 2,377 feet, flowing 3,000 bbls., and No. 3 Laney, Section 31-15-15, completed late last year at 2,011 feet, flowing 1,500 bbls. Phillips' No. 1 Tate, Section 9-14-17, is drilling at 3,095 feet. J. D. Reynolds' No. 1 Howell, Section 15-14-18, is a rig and Reynolds' No. 2 Ratch & Cartier, Section 36-13-18, is drilling at 1,100 feet. Roxana's No. 6 Berg, Section 28-15-15, is drilling at 2,565 feet. A rig is up 650 feet east and 200 feet south NW cor. NE SE, Section 29-15-15, for Standard Oil Co.'s No. 10 Murphy. The Texas Company's No. 17 Berry, Section 33-15-15, is drilling at 1,963 feet. Arco Oil Co.'s No. 1 Davis, Section 22-15-19, has started drilling. Louisiana Oil & Refining

Corp.'s No. 2 Green, Section 22-15-19, is testing 21 feet of sand topped at 1,527 feet.

**Columbia County**

Pluto Oil Co.'s No. 2 Robinson, Section 23-18-23, was abandoned at 1,000 feet. R. W. Aarnes' No. 2 Brown, Section 13-15-20, is coring pink shale at 3,332 feet. Six-inch casing was cemented at 2,180 feet at Gorden and associates' No. 4 Jones, Section 1-16-20. Haynesville Trust Co.'s No. 1 Wingfield, Section 18-19-19, has been temporarily abandoned at 2,400 feet. Kentucky-Arkansas Petroleum Co.'s No. 1 Peter Doss, Section 29-19-20, is running the core barrel to 2,450 feet.

**Nevada County**

Zing and associates' No. 1 Blakely, Section 27-13-20, was a failure at 1,501 feet and was abandoned. Autrey Oil Co.'s No. 6 Womack, Section 10-14-21, is drilling at 500 feet. W. F. Furen and associates' No. 1 Groves, Section 2-14-21, has spudded in. Humble Oil & Refining Co.'s No. 4 Bodcau, Section 10-14-21, is drilling in sandy lime at 2,336 feet. Webb and associates' No. 1 Haynie, Section 1-14-21, blew in making 20,000,000 feet of gas from sand at 1,121-28 feet and is to be deepened.

**Scattered Wildcats**

In Bradley County Magnolia Petroleum Co.'s No. 1 Arkansas, Section 33-15-11, is drilling at 100 feet. McMurry and associates' No. 1 Southern Lumber Co., 300 feet north and west SE cor. SE NE, Section 7-15-11, is a derrick and location has been made in the center of Section 2-16-17, for Yount and associates' No. 1 Southern Lumber Co. Southern Crude Oil Purchasing Corp.'s Calhoun County test, No. 1 Calion, Section 1-16-14, tested salt water at 2,593 feet and is drilling in shale at 2,608 feet. In Hempstead County, Frank S. Myers' No. 2 Nichols, Section 17-11-25w, is drilling at 900 feet. In Lafayette County, Arkansas Fuel Oil Co.'s No. 4 Allen, Section 18-19-24, is setting 12½-inch casing at 162 feet; No. 4 Red River, same section, is drilling in shale at 3,240 feet. Bostic Drilling Co.'s No. 1 Frazier, Section 8-18-24, was abandoned at 3,000 feet. Gulf Refining Co.'s No. 1-E Red River, Section 10-19-24, is drilling in gummy shale at 1,765 feet and The Texas Company's No. 1 Colvin, Section 14-17-24, is drilling in gumbo at 458 feet. Greason and associates' No. 1 Waldrop, Section 4-13-31, Little River County, is drilling at 848 feet and Mellick Oil Co.'s No. 1 Hawkins, Section 10-11-31, is drilling in lime and shale at 1,722 feet.

## ROCKY MOUNTAIN AREA

(Continued from Page 56)

black buildings there and manufacture carbon black from the gas in the well at Cisco Dome, another well is to be drilled to increase the supply for the plant.

The Forman Oil Co. drilled a deep hole in eastern Wyoming and completed it at 5,140 feet. This location is in Goshen County, near Lingle, and the well was reported a duster and was to be abandoned. Recent reports state the operators are not satisfied and will continue drilling again.

**Runs for the Week**

| | |
|---|---|
| Salt Creek | 50,150 |
| Teapot | 1,110 |
| Big Muddy | 3,480 |
| Grass Creek | 3,160 |
| Elk Basin | 860 |
| Greybull | 20 |
| Rock River | 2,970 |
| Notches | 250 |
| Rex Lake | 230 |
| Lance Creek | 1,480 |
| LaBarge | 200 |
| Poison Spider | 1,290 |
| Osage | 350 |
| Hamilton Dome | 1,120 |
| Lander | 310 |
| Byron | 30 |
| Lost Soldier | 4,930 |
| Ferris | 90 |
| Simpson Ridge | 180 |
| Cat Creek | 2,840 |
| Lake Basin | 180 |
| Sunburst | 25,000 |
| Florence | 425 |
| Moffat | 3,740 |
| Tow Creek | 125 |
| Fort Collins | 5,290 |
| Iles Dome | 60 |
| Boulder | 25 |
| Rangeley | 100 |
| Rattlesnake | 760 |
| Hogback | 490 |
| Artesia | 3,000 |
| Total | 114,245 |

## GULF COAST FIELDS

(Continued from Page 53)

2,725 feet. The Sun Oil Co.'s No. 6 Wright is bailing at 2,500 feet.

At Batson, the East Batson Oil Co.'s No. 13 State land is pumping 10 bbls. at 1,200 feet. The Buchanan Oil Co.'s No. 88 Milhome is a 4-bbl. well at 825 feet. The Paraffine Oil Co.'s No. 66 Paraffine is bailing at 1,100 feet.

The Paggi Oil Co.'s No. 43 Queen, at Saratoga, bailed dry at 1,500 feet. The Rio Bravo Oil Co.'s No. 5 Cotton is bailing at 925 feet.

In the Sour Lake Pool, Falloure, Hebert and others abandoned No. 3 Jackson at 4,100 feet. It is an old hole in the deep sand area that was deepened. The Peveto Oil Co. quit No. 1 Lynn at 1,120 feet. The Yount-Lee Oil Co. set 6⅝-inch casing in No. 4 Gilbert in the deep sand section at 3,965 feet and will test a showing of oil in shale and sand at 4,086 feet.

The Brane Oil Co.'s No. 5 Perkins, at Humble, is bailing at 2,450 feet, as is the H & W Oil Co.'s No. 3 Bailey at 1,100 feet. The Sun Oil Co.'s No. 10 Cade, at High Island, Galveston County, will pump at 3,530 feet.

In the Vinton (La.) Pool, the Vinton Petroleum Co.'s No. 28 Gray will make a 125-bbl. pumper at 2,450 feet. Same company's No. 15 Harmony is bailing at 2,500 feet.

In the Jennings (La.) Pool, The Texas Company's No. 10 Patrielle is good for 40 bbls. at 1,923 feet. The General Petroleum Co.'s No. 1 Fontent abandoned at 2,350 feet.

**Coastal Wildcats**

The Vacuum Oil Co. is drilling No. 1 Angola State prison farm in West Feliciana Parish, Louisiana, east of Mississippi River. It will be a deep test to go to 4,500 feet on a block of 19,000 acres located 2½ miles south of the Mississippi State line and 3 miles east of the river. The contract calls for several deep tests. But few tests have been made east of the Mississippi River, only one drilling below 3,000 feet. The Empire Gas & Fuel Co. drilled the only deep test last year. The present test is between the river and an escarpment that rises east and runs parallel with the river. Special heavy equipment is being used. Twelve hundred feet of 12½-inch casing will be set, 3,500 feet of 9-inch and 4,500 feet of 6⅝-inch.

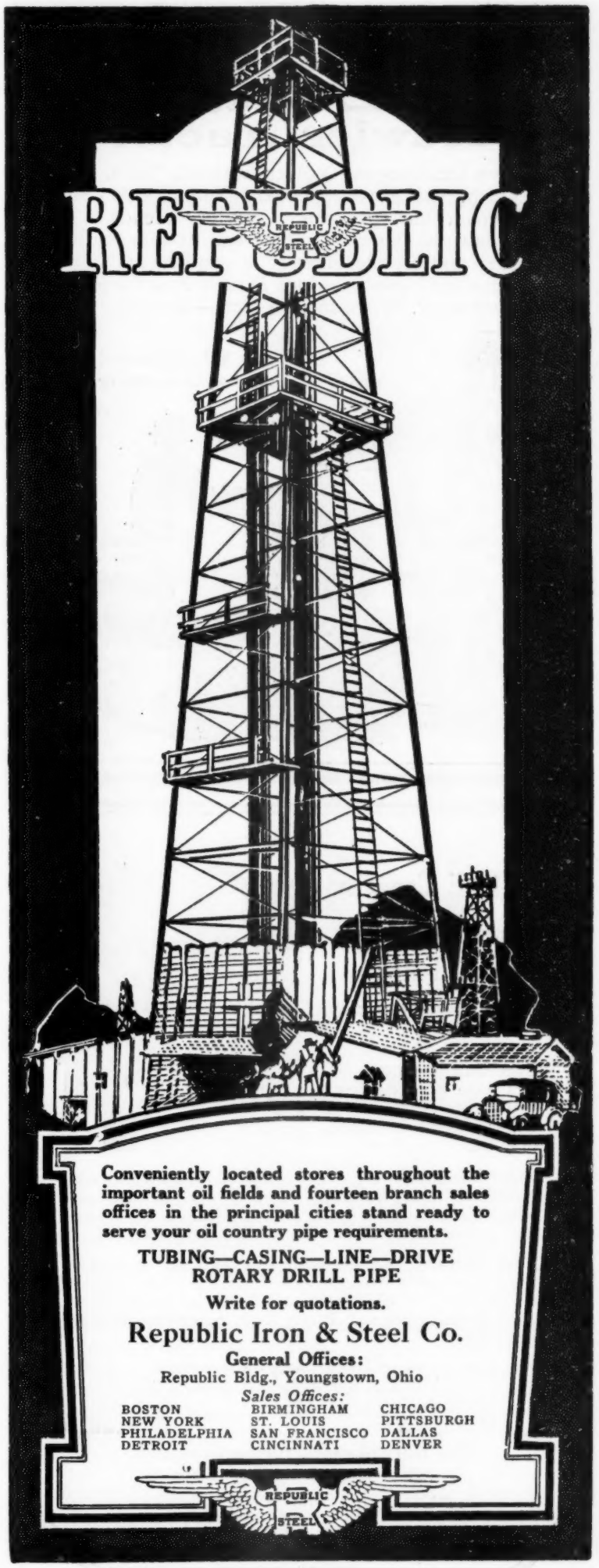
The Standard Oil Co. of Louisiana's No. 4 Industrial Lumber Co., off the new dome in Calcasieu Parish, Louisiana, between the Vinton Pool and Stark, drilled at 2,355 feet. No. 5 was abandoned in rock salt at 2,350 feet. No. 3, which showed last week for a 40-bbl. pumper, 25 gravity, is being drilled deeper from 3,350 feet. The new dome is 4 miles south of Stark, 7 miles north and west of the Vinton Pool and 7 miles east of the Texas line. The Gulf Refining Co. and Standard Oil Co. of Louisiana are drilling jointly there on adjoining leases. The Gulf company abandoned No. 1 Lutcher-Moore Lumber Co. lands some time ago in salt water at 1,400 feet and No. 2 went into a cavity at 2,020 feet. Both companies have made locations for more tests.

In Cathaloua Parish, S. B. Goodman's No. 1 Montgomery is around 1,300 feet.

In Iberia Parish, the United Oil & Gas Syndicate's No. 2 Salt Mine, Jefferson Island, is below 1,500 feet.

The Sun Oil Co. is drilling No. 1 in the Johnson Bayou section of Cameron Parish and the Yount-Lee Oil Co. has two rigs running at Hackberry Island Dome. The Pure Oil Co. is drilling No. 3 at Sweet Lake, in the southeast part of the parish. It is a deep hole, as were Nos. 1 and 2 there.

Some interest was manifested by leasers during the week in the territory around San Felipe, on the Brazos River, in the southeast corner of Austin County, Texas. The Gulf Production Co. is starting a test there scheduled to drill 3,500 feet. A gas seepage there has been known for years. The Valley Oil Co.'s

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No. 1 Thompson, in the same county, is drilling around 770 feet.

H. E. Brainkerr has started No. 1 Kyall, in Orange County.

In Liberty County, George Leland is rigging No. 1 Groggan Lumber Co. The Sun Oil Co.'s No. 3 Masterson, near Felicia, is drilling around 1,900 feet. Paddock & McRae are rigging No. 1 Quintette. No tests have yet been started on the prospective dome on the line of Liberty and Chambers Counties, 10 miles south of the South Liberty Pool.

The Texas Company has made a location for No. 2 League, in Chambers County, 6 miles north of Wallisville. Paggi Oil Co.'s No. 1 Jackson is around 1,500 feet. W. C. Moore's No. 4 Blanke has resumed drilling around 900 feet.

In Brazoria County, the Roxana Petroleum Corp.'s No. 2 Allen, south of Brazoria, is drilling in sandy lime at 4,645 feet. No. 2 Clements State prison farm is at 1,970 feet in lime.

In Fort Bend County, Neilan, Inc.'s No. 2 Fredericks is idle. The Gulf Production Co.'s No. 11 Davis, Long Point Dome, is drilling around 980 feet and No. 12 Davis is below 1,765 feet.

In Hardin County, the Humble Oil & Refining Co.'s No. 1 Weiss is around 2,910 feet.

In Harris County, the Brane Oil Co. has a location north of Spring. Benedum & Trees' No. 1 Kennedy is below 1,655 feet, southeast of Humble, near Harmston. The Kane Production Co.'s No. 3 Foster Lumber Co., near Huffman, is around 1,600 feet. The Gulf Production Co. is rigging No. 1 Votaw. Gwynn's No 1 Cage, near Huffman, is idle at 235 feet. Kelley and others' No. 1 Lipper, near Aldine, is drilling around 1,700 feet.

In Matagorda County, at Hawkins Dome, the Gulf Production Co.'s No. 1 Parkinson is drilling at 1,870 feet. No. 1 Sanborn is in sandy lime at 2,760 feet. No. 1-A Turner, near Van Vleck, is drilling about 1,345 feet. The Humble Oil & Refining Co. has rigged No. 1 Robbins there.

In Jefferson County, at Fannette Dome, the Gulf Production Co.'s No. 8 Thomas is rigging and No. 2 Bordages is fishing around 3,650 feet. At Big Hill Dome, the Houston Oil Co.'s No. 1 Pipkin-Davis is at 2,989 feet. No. 2 Sun-Dyson shows oil in sandy shale at 1.034 feet. The Port Arthur Development Co.'s No. 3 West, at Westbury, is sidetracking 4-inch drill pipe in the hole at 1,600 feet.

In Jackson County, the Jackson County Syndicate's No. 1 Lee is rigging, as is the Houston Oil Co.'s No. 1 F. B. Rooke in the gas field in Refugio County.

In the Rockdale-Minerva shallow sand field, in Milam County, the Jennings Oil Co. is drilling No. 17 Branch and R. T. Clifton No. 1 Letuege. The Poor Boy Oil Co. has started No. 1 Coulter. The Bartlett Production Co.'s Nos. 12 and 13 Coulter are drilling with derricks for Nos. 14, 15 and 16. W. W. Bynum's No. 15 Isaacs is drilling, with derricks for Nos. 16 and 17 Isaacs.

In Center County, Sebastian & Smith's No. 1 Fowler, 6 miles east of Center, set casing at 3,000 feet. Roy Anderson quit west of Shelbyville. McDaniel and others' No. 1, at Flat Rock, 10 miles east of Center, is drilling deeper. McCormick & Ramsey's No. 1, 3 miles west of Joquim, has started drilling.

**Drilling Operations in the Pools**

The Rio Bravo Oil Co. set casing at 4,250 feet in No. 5 Fountain, a deep test on the north side of the Saratoga Pool.

The deep test of the Capitol Oil Co. in No. 5 Hodges, on the northwest side at Batson, is drilling around 4,000 feet. The Gulf Production Co.'s No. 61 Choate is at 1,155 feet and No. 168 Wing is around 900 feet. The Houston Production Co. has made a location for No. 1 Santa Fe.

In the Goose Creek Pool, the Humble Oil & Refining Co.'s No. 12 Peninsula is drilling deeper around 2,619 feet. A derrick is standing for No. 17. No. 22 Peninsula is around 3,565 feet. No. 68 Smith, on the east side of the pool, is below 4,500 feet and No. 69 Smith is around 2,225 feet, with a derrick up for No. 70.

The Gulf Production Co.'s No. 18 Smith is drilling deeper at 2,675 feet. No. 8 State land is doing the same at 3,490 feet. No. 18 Chapman-Bryan is also deepening around 4,000 feet. No. 7 Wright is at 3,995 feet and No. 6 Hirsch at 455 feet.

The Gulf Coast Oil Corp.'s No. 9 Galliard is working over at 1,900 feet. The M & B Oil Co.'s No. 4 Scorrgea, northwest of production, is below 4,300 feet.

**Blue Ridge**

Gulf Production Co.'s No. 7 Blakely, at Blue Ridge, is around 3,800 feet and No. 3 Invincible is at 2,765 feet. Abercrombie and others set casing at 3,275 feet in No. 3 West-Schenck. The Blue Ridge Gas Co. has a location for No. 1 Robinson.

At Pierce Junction, the Gulf Production Co.'s No. 11 Taylor is deepening at 3,815 feet and No. 18 is around 3,655 feet. The Navarro Oil Co.'s No. 3 Cain is at 3,090 feet. The Rio Bravo Oil Co.'s No. 3-P Settegast has started drilling with an electric rig. It is on the west side of the dome. J. F. Bashara has rigged No. 1 fee, on the north side.

At Big Creek, Gulf Production Co.'s No. 29 Davis is drilling around 3,900 feet and No. 30 is rigging. No. 11 Wheat is below 4,100 feet.

The Gulf company's No. 2 Smith, at High Island, is at 2,345 feet. No. 5 Smith is around 4,370 feet. Sun Oil Co.'s No. 8-C Cade is drilling below 4,270 feet.

At South Liberty, the Humble Oil & Refining Co.'s No. 2 Welder is drilling around 3,900 feet. It is on the west side of the Trinity River. The Premium Oil Co.'s No. 1 Mitchell set casing at 2,700 feet. The Coastal Oil Co.'s No. 1 Lecoure is around 2,955 feet.

On the north flank of the West Columbia Dome, The Texas Company's No. 4 Abrams is working over at 2,800 feet.

**Boling Pool**

The Humphrey Corp. abandoned No. 1 Woodbin, on the northwest flank of the Boling Dome at 3,615 feet. Weed & Bayle's No. 1 Keller is rigging on the dome. They have been getting small wells in a sand above the cap rock. Within the limited productive limits, the Humble-Gulf company's joint No. 5 Hawes is side-tracking. No. 6 Hawes is drilling around 4,900 feet. No. 7 is idle. No. 12 is drilling around 2,765 feet. No. 15 is rigging. Derricks are up or locations made for Nos. 8, 11, 14, 15 and 16.

The Oxford Oil-Southern Exploration's joint Nos. 2 and 3 Floyd are working over. The Sinclair Oil & Gas Co. has a derrick standing for No. 6 Taylor. The Sun Oil Co.'s No. 1 Taylor is working over at 3,025 feet. No. 6 is rigging. The Texas Company's No. 8 Taylor is drilling around 4,180 feet. No. 1 Felder is at 3,455 feet. No. 1 Floyd is bailing; No. 2 drilling at 2,435 feet and No. 3 rigging. On the northeast flank across the river in Fort Bend County, The Texas Company is rigging No. 1 Farmer and the Sun Oil Co. has made a location for No. 2 Farmer. Same company just abandoned No. 1 Farmer in cap rock at 1,065 feet.

In the Sour Lake Pool, the Lake View Oil Co.'s No. 48 Hardin is around 1,980 feet. Eunice and others' No. 1 fee is a location. In the deep sand section, the Sun Oil Co. set 6⅝-inch casing in No. 1 Libbie at 4,180 feet. The Humphrey Corp.'s No. 2-A Bashara is below 3,280 feet and No. 1-B Bashara is around 2,255 feet, with a location for No. 1 Bashara. The Yount-Lee Oil Co.'s No. 1 Lynn is drilling at 4,096 feet. J. F. Bashara's No. 1 fee is at 2,980 feet. The Orange Petroleum Co.'s No. 1 Merchant is drilling at 1,565 feet. The Gulf Production Co.'s No. 1-D McLean fee is rigging up.

In the Nash Pool, on the line of Brazoria and Fort Bend Counties, 7 miles southeast of Damon Mound, the Rycade Petroleum Corp.'s No. 7 Wisdom is drilling in anhydrite around 1,335 feet. No. 8 Wisdom is below 2,335 feet in rock. No. 8 Nash is around 3,150 feet with 9-inch casing set. A derrick is standing for No. 9 Nash.

The Gulf company's No. 7 Moore, at

Orchard Dome, northwest of Rosenburg, Fort Bend County, is drilling around 1,980 feet.

The Rycade Petroleum Corp.'s No. 2 Kountz, on the south flank of the Markham Pool, is drilling below 1,825 feet. The Houston-Gulf Gas Co.'s No. 1 Kountz, 2 miles west, is rigging.

**Hull and Orange**

In the Orange Pool, the Gulf Production Co. is deepening Nos. 6 Peveto and 1 Hager-Moore. No. 2 Briggs-Moore is around 3,100 feet. No. 6 Winifree fee is at 2,765 feet. No. 11-A Kishi-Lang is around 4,324 feet. No. 23 Hager fee is deepening at 4,610 feet. The Texhoma Oil Co.'s No. 6 Chesson is deepening around 3,760 feet, as is No. 15 Chesson at 4,580 feet. No. 14 is shut down at 3,390 feet. The Rycade Petroleum Corp.'s No. 4 State land is drilling around 4,035 feet. The Supreme Oil Co.'s No. 1 Jackson is deepening around 3,016 feet. The Orange Petroleum Co.'s No. 3 Winifree is at 3,433 feet. The Humble Oil & Refining Co. is rigging to drill No. 4 Winifree deeper. The Brownie Babbittee Oil Co. has a location for No. 12 McLean and the Rex Petroleum Co. one for No. 2-B Carbello.

At Hull, the Republic Production Co.'s No. 126 Dolbear, is drilling at 1,175 feet; No. 131, drilling at 2,700 feet; Nos. 132, 133 and 134, locations. Humble Oil & Refining Co.'s No. 22 Guedry, derrick; No. 23 set casing at 2,900 feet; No. 5 Merchant, location; No. 1 Lynd, drilling at 1,900 feet; No. 1 Bebers, rigging up; No. 6 Marshall, shut down at 775 feet. Mecom Oil Co.'s No. 9 Taylor, drilling at 1,100 feet. Empire Gas and Fuel Co.'s No. 20 Barngrover and No. 21 are locations. The Texas Company's No. 1 Hannah fee, drilling at 2,500 feet; No. 10 Merchant, drilling at 4,375 feet. Gulf Production Co.'s No. 18 Scarborough, drilling at 600 feet; No. 18 J. C. Baldwin fee, drilling at 2,390 feet; No. 69, drilling at 2,060 feet; Nos. 70 and 71, locations; No. 19, drilling at 3,300 feet; No. 17, drilling at 2,400 feet; No. 9 Thomas, drilling at 3,575 feet; No. 18 David Hannah fee, drilling at 1,875 feet. Peer Oil Corp.'s No. 4 Harrison, drilling deeper.

**South Louisiana Pools**

The Rex Oil Co.'s No. 3 Hunter, at Edgerly, is drilling at 2,700 feet. Gulf Refining Co.'s No. 25 Bright-Penn, is drilling at 2,550 feet, and Drysdale's No. 2 Hill is sidetracking at 2,510 feet.

At Lockport, the Vacuum-Gulf's No. 1 Frieberg and Wolfe is drilling at 5,420 feet; No. 7 Miller, drilling at 4,390 feet; No. 8, sidetracking at 3,850 feet; No. 10, flowing 300 bbls., 70 per cent water at 3,150 feet; No. 11, drilling at 3,200 feet; No. 12, location; No. 11 Farquarhar, location; No. 3 Bordages, rigging up; No. 1 Bayou-State, location.

The Texas ompany's No. 3 Vincent, at Vinton, will deepen. Vinton Petroleum Co.'s No. 17 Vincent, is a location; No. 20, drilling at 2,975 feet; No. 28 Gray, pumping 125 bbls. at 2,450 feet; No. 15 Harmony, bailing at 2,500 feet. Edgerly Petroleum Co.'s No. 10 Vincent, drilling at 1,250 feet. Marrs McLean's No. 11 Gray, drilling at 1,250 feet. Vinton Oil Syndicate's No. 2 Johnson, drilling at 2,925 feet. Pelican Oil Co.'s No. 2 Lyons, shut down. Gulf Production Co.'s No. 42 Vincent, drilling at 300 feet; No. 42 G. and N. G., drilling at 2,050 feet; No. 5 F. H. Gray, rigging up; No. 2 Gray "A", location.

The Gulf Refining Co.'s No. 30 Jennings-Clement at Jennings is sidetracking at 1,500 feet. General Petroleum Co.'s No. 1 Fontenot, abandoned at 2,350 feet. The Texas Company's No. 104 Latrielle, pumping 40 bbls. at 1,925 feet. Port City Oil Co.'s No. 6 S. F. S., location. Jennings Petroleum Co.'s No. 5 Heywood, drilling at 1,725 feet. Jennings Oil & Gas Co.'s No. 1 Medlenka, drilling at 1,250 feet.

## BY-PRODUCTS BY MEXICAN PLANT

A by-products plant installed by a smelting and refining company at Rosita, Mex., exported motor benzine, coal-tar oil and creosote oil to the United States during the first quarter of the present year.

## MEXICAN PETROLEUM CO. GETS 20,000-BBL. WELL

By George Blardone
*Mexican Bureau, The Oil and Gas Journal*

TAMPICO, Mex., July 2.—The outstanding well of the past week in Mexican fields is Mexican Petroleum Co.'s No. 104 La Dicha, in the Ebano sector, of the northern division. This well came in at the very shallow depth of 1,550 feet, good for 20,000 bbls. The No. 102, in the same sector, is a failure at around 2,350 feet.

There was only one other pay completion for the week. It was East Coast Oil Co.'s No. 56 Laguna de la Milpa, in the Panuco district, which is good for 100 bbls. at 1,950 feet.

The failures follow: In Cacalilao: International Petroleum Co.'s No. 270, Lot 5, is a dry hole at 2,253 feet. In the Marland Field, Cia. Petrolera Franco Espanola, has two dry holes in Nos. 55 Limon and 59. The drill finished in each hole at 2,765 and 2,300 feet, respectively. National Lines' Nos. 45 and 48 Chapacao right of way are each dry holes at 2,905 and 2,755 feet, respectively.

In the south fields, Cosmos Oil Co. has a salt water well at 2,335 feet in its No. 130, Lot 17 Zacamixtle.

The rainy season is on at this time. Heavy rains the past few days have impeded work in the fields, and automobile traffic is practically suspended now. This means trucks also, of course, and a general slow-down of work. The Panuco River is rising and steamers entering this harbor are doing so with the caution necessary to safe navigation.

## CONVERTING TANKERS TO DIESEL PROPULSION

The tank steamer fleet of the Standard Oil Co. of New Jersey traveled 2,750,000 miles during 1925 and moved 97,000,000 bbls. of oil, while chartered boats moved more than 35,000,000 bbls. for the company, according to a review of the fleet operations in the Lamp.

The company-owned fleet under the American flag consists of 37 tankers of 460,268 deadweight tons, while boats chartered brings the average in operation to 800,000 tons. In addition, foreign subsidiaries have fleets totaling 49 tankers of about 450,000 deadweight tons.

The New Jersey company's tankers form the largest American fleet of boats and form a striking contrast to conditions at the time of the dissolution, in 1911, when it did not own a boat under American registry.

Its American fleet last year made 711 voyages, consumed 2,500,000 bbls. of fuel oil and made more than 1,400 calls at ports in more than 25 countries. Because of its direct interest in oil as the largest marketer of fuel and owner of tonnage, the company says it has made a practical contribution to develop in practical service Diesel engines for propulsion. Its new boats are all Diesel type and several recently have been changed over to Diesel. As recently as 1923 the Diesel tonnage of the company's combined fleet represented only 2 per cent of the total, while by the end of 1926 the Diesel tankers will represent 35 per cent of the tonnage.

## SPAIN USES RUSSIAN GASOLINE

Spain continues to import Russian gasoline, and storage space has recently been secured for it at the principal Spanish ports, facilitating its adequate distribution in the country and inducing a reduction of prices. A contract for the distribution of 15,000 tons of gasoline in the first year is stated to have been concluded.

## FRENCH GASOLINE LOCOMOTIVES

WASHINGTON, July 3.—Branch lines of the French State Railways are using gasoline locomotives. As a result of satisfactory experiments, an order for 10 new locomotives was placed.


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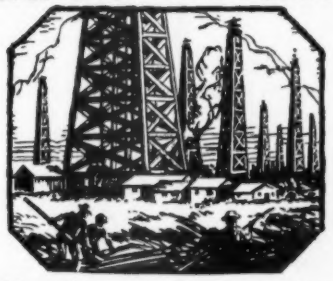

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# CALIFORNIA'S PROVEN OIL LAND INCREASED TO 121,436 ACRES

SAN FRANCISCO, Calif., July 3.—According to estimates prepared by the State Mineralogist in conjunction with the State Board of Control, on the first of March of this year, the estimated cost of maintaining the Department of Petroleum and Gas of the State Mining Bureau for the current fiscal year is $156,000. Therefore, in order to renew the petroleum and gas fund to the maximum of $185,000 allowable by the statute under which the department functions, oil and gas producers and oil land owners will be subjected to a tax, prorated against oil and gas produced during 1925 and proved oil land as of March 1, 1926, to bring in a total amount of $156,000.

In prorating the assessment one-tenth of $156,000 is assessed against the proved oil land of the state, as determined by the State Oil and Gas Supervisor. The remaining nine-tenths is levied against the oil produced and the gas produced and sold, as determined from sworn statements of oil and gas producers. For the purposes of assessment 10,000 feet of gas is considered equal to one barrel of oil.

The total proved oil land of the state is 121,436 acres, an increase during 1925 of 2,457 acres. Of this amount 22,673 acres, being owned by Federal, state and city governments, or for other reasons, is not assessable. The remainder, 98,763 acres, is assessable, and the rate per acre is $0.1579, to yield a total of $15,600.

The total production of net oil in 1925, according to sworn statements, is 228,246,250 bbls., an increase of 5,270,309 over 1924. The total quantity of gas produced and sold is 104,269,770,000 feet. The rate per barrel of oil and per 10,000 feet of gas is $.00058825, slightly over 58 hundredths of 1 mill per unit, to yield a total of $140,400.

The following table gives the quantities of proved oil land, oil, gas and number of producing wells in various counties of the state:

| County— | Proved Land—Total (Acres) | Proved Land—Assessable (Acres) | Oil (Bbls.) | Gas (10 M. Cu. Ft.) | Wells (No.) |
|---|---|---|---|---|---|
| Fresno | 14,636 | 14,448 | 7,719,436 | 2,622 | 969 |
| Kern | 76,398 | 56,173 | 57,887,686 | 2,248,884 | 5,931 |
| Los Angeles | 11,239 | 9,533 | 120,761,631 | 5,811,040 | 2,807 |
| Orange | 6,630 | 6,186 | 30,073,959 | 1,116,243 | 979 |
| Ventura | 4,228 | 4,118 | 9,184,903 | 1,172,535 | 571 |
| Santa Barbara | 7,823 | 7,823 | 2,574,103 | 75,653 | 354 |
| San Luis Obispo | 402 | 402 | 29,424 | ..... | 11 |
| Santa Clara | 80 | 80 | 10,976 | ..... | 9 |
| San Mateo | ..... | ..... | 885 | ..... | 3 |
| San Bernardino | ..... | ..... | 3,240 | ..... | 1 |
| Total | 121,436 | 98,763 | 228,246,250 | 16,426,977 | 11,636 |
| Rate | ..... | $0.1579 | $0.00058825 | $0.00058825 | ..... |

## COASTAL COLOMBIA ALSO POSSIBLE OIL AREA?

By N. O. Fanning
*New York Bureau, The Oil and Gas Journal, 30 Church St., New York*

NEW YORK, July 3. — A Hamilton Garner, of the firm of Brokaw, Dixon, Garner & McKee, has returned from a trip to Colombia, South America. He spent approximately two months in that country and visited some of the principal prospective oil regions.

Mr. Garner is optimistic with regard to the rapid development of Colombia's oil production, based upon the large number of areas in which oil is believed to exist, the favorable attitude of the Colombian Government toward oil development, and the steps being taken by some of the leading oil companies toward putting the country on the map as a large commercial oil producer.

Work has been held up somewhat the past spring by lack of rains, he said. This made navigation on the Magdalena River extremely difficult for some time, but indications are the situation is improving. Rains expected seasonally during April are just beginning to arrive. The Magdalena River is the chief transportation artery of Colombia on which depends the shipment of drilling material to many of the leading concessions. The dry weather, however, helped work on the Andian pipeline, which is now completed. Mr. Garner is of the opinion that oil is now being run through this line.

Although considerable successful development has been carried out in the interior, Mr. Garner believes the coastal area of Colombia also offers good opportunities for production, especially since many large seepages exist, and one well has been drilled which made a showing of oil. Drilling in this district has been attended by ill luck so far as in the transportation of equipment, and the territory has not yet been thoroughly tested.

That oil development in Colombia is progressing soundly was the opinion expressed by Mr. Garner. This is due, he states, to the fact that concessions are for the most part removed from one another, and there is little competitive drilling. This will have an important effect on the future of the industry, as it serves to eliminate destructive and wasteful operation of concessions. It will probably result in a large ultimate recovery of oil.

Mr. Garner also points out that as the companies have not been so active in securing concessions until recently, there are still many tracts available for leasing. Many of the larger oil concerns are now engaged in picking up additional acreage.

The completion of the Andian National Corp. pipe line should stimulate development on many concessions which are located near the line, he states. This line is a common carrier, and it is believed will handle oil from various concessions along the way.

The Colombian Government is taking an attitude designed to encourage oil development, Mr. Garner says. The country is in good financial condition, with unlimited opportunities for commercial and agricultural growth.

## GERMAN BENZOL PRODUCTION

Benzol production in Germany in 1925 set a new record. Production by the 35 members of the Benzol Verband of Bochum amounted to 235,000 metric tons. This cartel controls about 90 per cent of Germany's output. The 1925 production is approximately 96 per cent more than that of 1912 and 50 per cent more than that of 1913. Increased production of benzol in Germany in postwar years is accounted for by its use, with gasoline, as fuel for internal-combustion engines. The Benzol-Verband has brought a new motor fuel on the German market under the trade name of "By-Monopolin." It is a mixture of ethyl alcohol of a high percentage of purity with a grade of light gasoline and BV motor benzol.

## SHALE INDUSTRY IN MANCHURIA

It is reported that the South Manchurian Railway Co. has been experimenting at Fushan, Manchuria, with the dry distillation process for producing oil from oil shale, and is now installing a plant which will be finished in August. This plant will be capable of producing 400 tons of oil per day. If successful, it is possible that the company will install another plant for operation in November of the present year.


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# CHICAGO MARKET IS DEMORALIZED BY CHARGES OF BAD FAITH ON PRICES

By J. B. Waldo

CHICAGO, July 3.—The local weather bureau says June was the lowest in temperature for 23 years, and the rainfall not equalled for 34 years. This accounts in a great measure for the lack of consumption of gasoline.

There has been a very good demand during the present week. There was some early buying of tanks for immediate delivery before the Fourth of July; cars rolling and from nearby shipping points were wanted. Later the demand was for delivery right after the Fourth

The price situation was demoralized and there were many charges of bad faith as to the holding of prices. Some refiners who claimed that they held their price at 11½ cents up to the end of the preceding week started last Monday by a reduction of 11 cents, claiming others had made prices below the 11½-cent price for Navy gasoline and taken a good part of the business that would otherwise have come to them. These charges were denied and counter claims made, but the result was a decline to 11-cent basis for straight Navy gasoline. Then there were some offers of gasoline in quantities at 10¾ cents and some sellers met this price. As a rule the established marketing organizations have held their prices better than the refiners who sell the trade direct and several marketers have held for 11¼ cents just as firmly as they could do and not lose all of their business. The price of 10¾ cents seems to be the present price for larger orders for immediate shipment. Two large buyers, both well known, had orders in the market for 25 car lots of Navy gasoline for delivery right after the Fourth, and each stated they bought at 10¾ cents. Each made the offer to a well-known refiner to give that refiner the order if the price could be made 10¾ cents, which was the price they stated they could buy at from good plants. This particular refiner had made drastic cuts in his runs and has little excess gasoline beyond his own requirements and for orders already booked and he stuck for his price of 11 cents. It is said the Greenslade order was placed this week at 10¾ cents and the Benzolene Motor Fuel Co.'s order which was a 450 endpoint is stated to have been placed at 10½ cents. These were 50 car lot orders. The hope of the market is that the after holiday demand will be sufficiently large to hold the market at 11 cents, and so far as known there has been no gasoline sold for delivery over July at less than 10¾ cents to resale marketers in tankcar lots. Under present conditions the market seems to point to an 11-cent price for Navy gasoline over July. No one here expects it to better that price, although it is possible that in individual cases a jobber who had to have gasoline might have to pay a premium for prompt delivery, if the demand were exceptionally good, but as the trade here sees the situation, there is too much gasoline for any real advance in the market to take place.

### Fear Tankwagon Cut

According to word received from refiners in western Pennsylvania, California gasoline is being shipped into their territory from the east coast and some of it reached Ohio. The price is stated to be 12 to 12½ cents, and one oil man who has returned during the week from a trip among the Pennsylvania refiners reported they feared the tankwagon price would be reduced in their state. There is some feeling of apprehension regarding the tankwagon price here, and this is one reason or excuse given by some of the larger jobbers for not placing quantity orders they could buy at lower prices during July. It is a peculiar, although not wholly unusual, condition in the industry that the market should show so little strength right at the time when the actual consumption was just beginning to reach its greatest volume. There are great industries in which the plan is followed to sell first and manufacture afterwards, but the petroleum industry makes first and sells after it has accumulated a supply which places it at the mercy of the buyer except during most unusual seasons.

The demand at present is about equally divided between the Navy and the lower gravities of which the present refinery price lists contain many combinations of gravities and endpoints, conceived some jobbers believe for the purpose of shading prices. The demand for the higher tests is very light. The new antiknock gasolines are selling well according to their refiners but the average jobber has lost his fear of these and buys what he can sell to his trade. Natural gasoline is reported to be in demand from the West Coast again, but so far as this city is concerned the demand is light and prices easy.

### Kerosene Reductions

Kerosene has felt the effect of the reduction in the tankwagon price by the Standard Oil Co. (Ind.). Further reductions in this list are rather expected. The July tractor demand is expected to be some better but most believe there are considerable supplies in the tanks of the jobbers. The present demand is light and stocks are ample, judging by the offerings and the prices quoted. Several quotations to the trade on 41-43 water white kerosene are 5¼ cents, with others holding for 5½ cents. One market letter mailed before the latest cut gave the price of kerosene at 6 cents. Several have expressed their opinion that kerosene would not sell regularly at less than 5 cents at the refineries. Their argument is that it costs ½ cent to treat the kerosene and that the distillate will sell as furnace oil at 4½ cents and find a ready market at this price a little later.

### Distillate Futures

Distillate for oil burners is still vexing the jobbers and marketers who want contracts at a price over the season. As yet no refiners are willing to make more than a contract to deliver a specified quantity at the market price date of shipment. If any contracts have been named they are not known here. The price of kerosene has about put an end to the talk of such high prices as have been named by some sellers as expected to rule over the season. Jobbers will not pay the price suggested by some of these sellers. They believe they can blend kerosene with gas oil or even with asphalt crude and supply a fuel oil that will have all the essentials of a first-class furnace oil. There has been even some experimenting and those who have tried out the blends claim they can get a flash that will better that of most distillates and with kerosene at present prices the price will be such as they can afford to pay. Prominent sales offices say their mail is full of requests for prices and terms over the season. On the other hand lists of practically every available refiner have been written by some large organizations whom any refiner would be glad to sell so far as credits are concerned and did not bring a single favorable response, only offers to book the business at the "market date of delivery." This means nothing to the buyer at present, as he believes that in spite of all that has been said there will be an ample supply of furnace oil when it is needed.

### Gas Oil Steady

Gas oil is steady if not firm in tone. Late buyers report that the cheap oil that was to be picked up recently has disappeared and that 3⅞ cents refinery is the bottom for any usable gas oil with many refiners asking 4 cents. There is a steady demand and some contracts have been closed with furnace oil distributors for supplies over the season.


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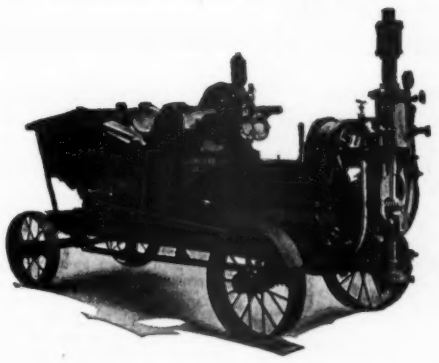

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90-ACRE LEASE in Woodson County, Kansas. Equipment and pipeline connection. Production guaranteed. Price reasonable. Houston, Transportation National Bank, Minneapolis.

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FOR SALE—120 acres in Section 9-14-16, 5½ miles northeast of Boynton, Okla. $35 per acre. Mrs. Katy Kronke, Fairland, Okla.

2,000 ACRES prospective oil land, get in ahead of the pending developments. D. P. Trim, Realtor, 743 E. St., San Diego, Calif.

AUCTION SALE of oil and gas mining lease on Indian Tribal Lands. An oil and gas mining lease on the following described Indian Tribal Lands will be offered for sale at public auction to the highest and best bidder at the office of the United States Field Clerk at Wewoka, Okla., July 15, 1926, at 2 o'clock p. m.: SW¼ and S½ NW¼ of Section 5 and the E½ SE¼ of Section 6, all in Township 8 North, Range 6 East, 320 acres, being the land reserved for the Mekusukey Mission School located about four miles south of Seminole, Okla., on the C. R. I. & P. R. R. No bid will be considered for less than the bonus consideration of $50 per acre, together with the first year's advanced royalty, required leasing and filing fees; the lease to be for a period of five years, and as long thereafter as oil or gas is found in paying quantities. No drilling will be permitted within 500 feet of any building on the land described. For further information communiate with the Inspector in Charge for the Five Civilized Tribes at Muskogee, Okla. H. H. Fiske, Inspector in Charge.

FOR LEASE—100 acres, Sec. 10, Twp. 9, Range 34. Quay County, New Mexico. Mrs. F. H. Woh'farth, Cromwell, Okla.

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Underwriter Brainard Ranch oil and gas leases, 25,000 acres in Hutchinson County. Hutchinson County is the major producing area. New 5-year leases from 20 acres to 160 acres. Bought right can sell at reasonable price per acre. Write for map and prices. I have handled, as underwriter, over 60,000 acres in the field on which over 80 wells are now drilling or producing. Ed R. Mayer, Amarillo Hotel Bldg., P. O. Box 1186, Amarillo, Tex.

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135-ACRE LEASE in Woodson County, Kansas. Equipment and pipeline connection. Production guaranteed. Price reasonable. Houston, Transportation National Bank, Minneapolis.

OHIO COUNTY, KY. Drilling propositions to reliable operators who will drill for acreage. Depth of wells from 800 to 1,100 feet. This county produces oil from a true sand or Penna. formation. Full data on request. R. E. Cope, Bowling Green, Ky.

FOR SALE — Offer 140-acres lease Greenwood County, Kansas; 2 producing wells, 30 bbls.; 2,200 feet; quick sale $30,000. Andrew Miller, 1113 Bitting Bldg., Wichita, Kansas.

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WANT producing royalties in Arkansas and Louisiana. Give all details. James H. Dugan, Randolph Hotel, El Dorado, Ark.

TEXAS PANHANDLE

Royalties in large or small units to suit any size buyer in fastest growing and most rapid developing oil field in middle west. Write for list of offerings. B. O. Taylor, 306 Blackburn Bldg., Amarillo, Tex.

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CASING (Slightly Used)
5,000 ft. 5 3/16", 20-lb. per foot
1,150 ft. 6¼", 26-lb. per ft. (900 ft. new.)
1,575 ft. 6⅝", 24-lb. per ft.
2,650 ft. 8¼", 28-lb. and 32-lb. per ft.
2,600 ft. 10", 40-lb. and 45-lb. per ft.
1,100 ft. 12½", 50-lb. per ft.
1,000 ft. 15½", 70-lb. per ft.
Line Pipe (Slightly Used)
5,500 ft. 4", 11-lb. per ft.
23,700 ft. 6", 19.45-lb. per ft.
25,000 ft. 8", 29.35-lb. per ft.
10,000 ft 4" Standard black.
Drilling Rig
1 No. 25 Star, portable, complete with firebox boiler.
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Denver, Colorado.

FOR SALE—Friction pulling machine. Three Troy trailers. Two pressure tanks, 3x22 feet. Box 327 Dewey, Okla.

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THE STANDARD OIL CO. (Kansas)
Phone 236 Neodesha, Kans.

FOR SALE—Two No. 19 and 1 No. 25 Armstrong and 1 No. 38 Star drilling machines with complete sets of tools. Rigs are in good running condition. W. P. Harley, Bowling Green, Ky.

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Worthy of your confidence. General machine work. 1416 Walnut, Kansas City, Mo. Phone Harrison 7660.

USED LINE PIPE FOR SALE
35,000 feet 2½-inch
50,000 feet 3 -inch
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Two miles 60-pound first-quality relaying rails.
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GOVERNORS for auto engines when used for power purposes. B-C-S Governor Co., 215 W. Manchester Ave., Los Angeles, Calif.

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WANTED—Standard rig and complete tools, large and heavy for drilling deep test 3,500 feet or more. Will buy, lease or contract on right terms. Also wish communications from experienced deep hole driller with good record. Mineral Exploration, Inc., P. O. Box 323, Tallahassee, Florida.

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Used Diesel engines, 10 to 250 H.P., either belted or direct connected type. Prices must be attractive.

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OIL REFINERY operating experience, familiarity with pressure and vacuum distillation processes; preferably single, about 30 years old; technical education; to travel Mid-Continent refineries; sales work for well-known manufacturer of refinery equipment. Box B-363, The Oil and Gas Journal, Tulsa, Okla.

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TULSA, OKLAHOMA

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MAILING LIST

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K. S. ALBERT, CASPER, WYOMING

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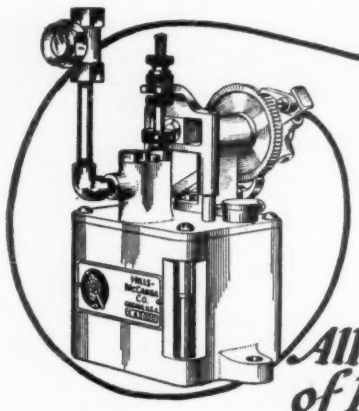

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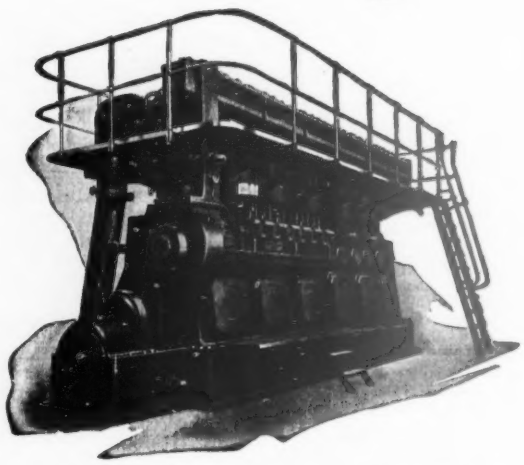

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**No air compressor. Forced feed lubrication.**

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Also Manufacturers of Ice Making and Refrigerating Machines


These contracts are for the most part between concerns that have done business together for years and the buyers do not wish to change their source of supply. The prices named range from 4 cents at the opening of the season to 4½ cents during the months of peak demand. The makers of some of these contracts have stated they were not covered but took a chance to oblige a good customer. It is also probable should there be a decided variation from these prices either way there would be some adjustment up or down to make the contract equitable and fair to both parties. Gas companies are not using much gas or enrichment oil of any kind as they would if the nights were longer and are generally drawing against contracts or stocks on hand and buying carefully for their requirements when in the market.

**Fuel Oil Slow**

Fuel oil is still moving slowly and buyers are still reluctant to pay the prices asked and are hammering the market to get the best prices possible. There has been some unloading by individual refiners, now one and next another, to empty tanks they explain needed for other oils. The result has been a slight decline in prices and even at the lower prices only a moderate business done. Orders are for the most part small to barely moderate and little large business is being done. Yet the consumption must be and is about normal but instead of contracting for their requirements for even short periods of a month or 60 days the average buyer takes in a few cars and then asks for a lower price for his next order. Possibly a natural condition under the circumstances but one that is rather vexatious to the dealers in fuel oils who are accustomed to large business. It also throws some business to the smaller operators who will sell on a closer margin and not only "split the nickle but work in decimals" is the way some of the older sellers express their opinion of the tactics which secure orders today.

Local oil men are much disturbed by the report from Washington that costs for the shipments of all grades of refinery products from Group 3 points to this city and most of the territories are to be increased within three months by an adjustment of freights and they look on it as an unnecessary tax on the industry favoring the railroads and possibly a few points in the territory. The increase in the freight on a gallon of gasoline is practically one-fifth of a cent and instead of charging freight from Group 3 to Chicago at 2.38 cents it will be necessary to advance the rate to 2.57 cents. With the traditional optimism of the industry, they hope here somebody will do something sometime to make the commission change its mind regarding the proposed change in freight rates.

**Lubs Active**

Lubricating oils are active and firm. The demand for motor oils with refiners is still good they report and stocks are light with some having orders booked that will draw on their supplies and production for some weeks at least. The industrial demand is also better and cylinder stocks are strongly held. Jobbers in general have put in their first stocks of motor oils and the replacement demand is only fair. Exports are spotted but there is a considerable movement.

The only tankwagon changes in this territory have been the two reductions in the prices of kerosene general over the territory. The effect of these reductions had been discounted in the refinery markents and little change in the refinery prices followed especially after the second cut. The spread is still wide. The spread on gasoline is regarded with considerable anxiety as at the present tankwagon price there is not only opportunity but a real temptation to cut prices for the dealer who believes the way to get more business is to sell as near cost as possible and stay in business. Some of the large local independent distributors have bought their requirements for July at prices that will enable them to make a large margin of profit if prices are maintained but if there is a desire to stimulate business or the seeming necessity to meet competition by making lower prices or giving extra rebates they can easily do so. Oil men who have traveled over the territory and looked into the situation carefully claim that while the price situation is apparently serene on the surface there is a great amount of secret and open rebating and that the quoted tankwagon and station prices really are being sadly cut in secret or by more or less open rebates. Many blame the Q. D. A. and say that while it was intended to do away with the secret rebates by recognizing a practice which had grown up in the industry of quoting lower prices to regular buyers of large quantities of gasoline that the result is apparently to entirely unsettle prices and give an excuse if not a reason for all sorts of rebating, price cutting and other forms of price reduction to the buyer of quantities. There are so many charges right here in Chicago of rebates allowed for less than the required quantity of marginal contracts at much larger margins than will be admitted, that a continuance of the present wide spread between the refinery prices and the costs to the re-sale buyer and the consumer that they really invite a repetition of the condition which prevailed a year ago and two years ago in the price structure.

As the trade here sees fit the refiners have the power and should have the desire to maintain prices but the trouble is they simply let rumors or reports of low prices made somewhere by someone influence them. One leading oil man here said the refiners must take the blame for the situation for the only people who had gasoline to sell in the first instance were the refiners and every gallon sold at a cut price came from some refiner. Over-running the demand seems to be the real fault and the industry should finally understand that the real profit comes from sales at above the cost to produce and that the more that is sold at less than cost, the greater the loss. This is a fundamental and very obvious fact, yet the industry seems determined to disregard it.

## BUNKER OIL SUPPLY FOR FOREIGN TRADE

By Charles E. Kern

*Washington Bureau, The Oil and Gas Journal*

WASHINGTON, July 3.—The bunker coal and oil supply to vessels engaged in foreign trade during May amounted to 2,729,084 barrels compared with 3,995,024 barrels in May, 1926. This decrease largely corresponded with the decrease in bunker coal which was 437,273 tons, compared with 400,426 tons in May, 1925.

The quantities of bunker oil supplied at the various ports for vessels engaged in foreign trade in May, 1926 follows:

Maine and New Hampshire, 1,892 bbls.; Massachusetts, 55,188 bbls; New York, 1,725,990 bbls.; Philadelphia, 115,016 bbls.; Maryland, 46,681 bbls.; Virginia, 54,212 bbls.; Georgia, 10,605 bbls.; Florida, 31,794 bbls.; Mobile, 40,256 bbls.; New Orleans, 415,990 bbls.; Sabine, 77,120 bbls; Galveston, 156,991 bbls.; San Francisco, 286,860 bbls.; Los Angeles, 480,373 bbls.; Oregon, 25,400 bbls.; Washington, 130,418 bbls.; Hawaii, 69,191 bbls.; Porto Rico, 4,852 bbls.; Chicago, 200 bbls.; Michigan, 26 bbls.; Duluth and Superior, 29 bbls.

## ITALY'S OIL PROGRAM

WASHINGTON, July 3.—The Azienda Generale Italiana Petroli, the new government oil company, has recently named its officers, according to advices to the Department of Commerce. The company's capital of 100,000,000 lire has been considered in Italy as rather inadequate but its president has expressed the opinion that the government will provide additional funds if tangible results can be obtained. There is a general expectation in Italy that the A. G. I. P. may acquire oil properties abroad, but domestic explorations are also expected and its constitution provides for the importation of oil.

# GASOLINE STRONG IN THE EAST; HOT WEATHER BOOSTS CONSUMPTION

By N. O. Fanning

*New York Bureau, The Oil and Gas Journal, Room 543, 30 Church St., New York*

NEW YORK, July 2.—The refined oil situation on the Atlantic Seaboard has remained strong, especially with regard to gasoline. Reports of general weakness in the situation, it is believed, have been over-emphasized. The past week has brought continued hot weather and gasoline consumption has taken a material jump as a result. Refiners and marketers here also comment on the improved crude oil situation.

The feeling prevails here, however, that there will be a revision in prices of some products within the next two weeks. Kerosene is likely to be reduced, largely in sympathy with the western markets. Some also believe gasoline tankwagon prices will be reduced, but a close study of the situation reveals no particular reason for such a move.

Atlantic Coast refiners are still moving gasoline into both domestic and export channels on a record scale. During June they moved a record amount of crude and refined from the Gulf Coast by tanker, in readiness for heavy runs this summer. It is believed here that a move on their part to buy crude or refined oil in the open market from Mid-Continent refiners would result in a quick bolstering of the situation in that field, and would remove the principal weakness in the present market situation. Weakness in the Tulsa refinery market has resulted in a spread between Mid-Continent and Eastern prices which must soon be followed either by a recovery in the latter market or a decline in the former.

### Kerosene Situation

The kerosene market is somewhat soft, due to the seasonal lull in consumption and a slight decline in the export trade. Furnace oil is not in as big demand, and this has also indirectly affected kerosene. However, there has been no indication of an actual decline in prices. The tankwagon and export prices are unchanged. The tank car market, however, is somewhat lower, this representing western Pennsylvania or Mid-Continent material.

### Fuel Oil

Fuel oil prices are unchanged, with no particular feature worthy of mention during the week.

### Lubricating Oils

A better tone has developed in the lubricating oil market. Refiners and jobbers report improved sales in the industrial and motor trades. High grade cylinder oils are moving especially well. Forward inquiries indicate a continuance of the present more favorable state of the trade through the summer months.

### Export Market

The oil export movement during the past week showed a considerable improvement over the preceding week in all departments. More than 20,000,000 gallons of gasoline, kerosene and lubricating oils left the port during the week.

Shipments of gasoline amounted to 7,870,061 gallons, including 5,742,281 gallons in bulk, 254,750 gallons in barrels and 1,973,030 gallons in cases.

Exports of kerosene, aggregating 6,411,008 gallons, including 4,261,948 shipped in bulk tankers and 2,149,060 gallons in cases.

Bulk lubricating oil shipments were large, making up 4,192,352 gallons of the 5,901,182 gallons exported during the week. Barrel shipments amounted to 1,227,600 gallons.

Exports of paraffin wax during the week amounted to 3,168,175 pounds of which 1,699,000 pounds were refined and 1,469,175 crude. Petroleum asphalt shipments amounted to 1,445,425 pounds.

### Outlook for Exports

The current heavy movement of petroleum products into export channels is not only due to increased consumption abroad, but in the opinion of some authorities, to the fear that import duties may be levied in some large consuming countries. Many marketers are rushing oil in to anticipate such a move. The extent of this movement cannot be correctly gauged as yet. However, the tendency in many foreign countries is to encourage exports and restrict imports as much as possible. France and Italy are cases in point.

The following table shows principal exports of petroleum and petroleum products from New York reported during the last three weeks (figures in gallons unless otherwise noted in parenthesis):

| | Week Ended | | |
|---|---|---|---|
| | June 30 | June 23 | June 16 |
| Gasoline: | | | |
| Bulk | 5,742,281 | ..... | ..... |
| Barrels | 254,750 | 401,000 | ..... |
| Cases | 1,973,030 | 1,075,990 | 1,915,880 |
| Kerosene: | | | |
| Bulk | 4,261,948 | ..... | ..... |
| Cases | 2,149,060 | 1,763,940 | 1,356,800 |
| Varnolene: | | | |
| Bulk | 160,503 | ..... | ..... |
| Gas oil: | | | |
| Bulk | 231,165 | ..... | ..... |
| Lubricating oil: | | | |
| Bulk | 4,192,352 | 1,112,643 | ..... |
| Barrels | 1,227,600 | 1,043,700 | 1,598,300 |
| Cases | 381,230 | 382,530 | 283,300 |
| Lubricating grease: | | | |
| Bbls. (lbs.) | 342,000 | 437,400 | 663,300 |
| Paraffin wax: | | | |
| Bags (lbs.) | 1,699,000 | 759,440 | 1,971,640 |
| Bbls. (lbs.) | 1,469,175 | 230,600 | ..... |
| Petroleum asphalt: | | | |
| Bbls. (lbs.) | 1,445,425 | ..... | 3,301,725 |
| Crude oil: | | | |
| Bulk | 601,429 | ..... | ..... |

The foregoing figures include lots of 500 barrels, 1,000 cases, or more.

### Tanker Charters

The tanker chartering market is fairly active. Russia seems to be especially prominent. New fixtures follow:

Tanker Gobeo (Span.), 2,088 tons net, Black Sea to United Kingdom-Continent, 21s., dirty, July loading.

Tanker Barde (Nor.), 2,481 tons net, Black Sea to United Kingdom-Continent, clean oil, 22s. 6d., July loading.

Tanker Agwisun (Am.), Gulf to north of Hatteras, 26 cents, July loading.

Tanker Hermione (Br.), 3,201 tons net, clean oil, Gulf to United Kingdom-Continent, 27s. 6d., end July loading.

Tanker Wellfield (Br.), 3,296 tons net, Gulf to United Kingdom-Continent, 28s. 3d., two ports, August loading.

Tanker Gustav Schindler (Ger.), 3,000 tons, gas oil, New York to Copenhagen, 27s., July-August loading.

Tanker Masconomo (Br.), gas oil or lubricating oil, Batoum or Novorossiysk, one, two or three ports of the Continent, 23s. 6d., with 1s. extra each additional port, August loading.

### Oil Receipts

Receipts of crude and refined oil at Atlantic Coast ports during the week ended June 30 amounted to 4,743,000 bbls., a daily average of 678,000 bbls., compared with 4,943,000 bbls., or 706,000 bbls. daily, the preceding week.

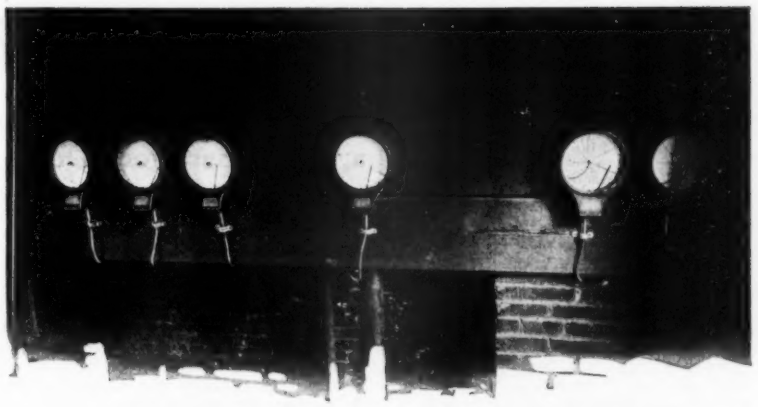
Receipts from the Gulf Coast aggregated 3,127,000 bbls., a daily average of 449,000 bbls. Receipts from the Pacific Coast amounted to 785,000 bbls., or 112,000 bbls. daily. Imports totaled 831,000 bbls., a daily average of 119,000 bbls.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks; also monthly record for the last 12 months (figures in barrels):

| | Week ended | | |
|---|---|---|---|
| | June 30 | June 23 | June 16 |
| Gulf | 449,000 | 423,000 | 279,000 |
| Pacific | 112,000 | 139,000 | 60,000 |
| Imports | 119,000 | 144,000 | 120,000 |
| Total | 680,000 | 706,000 | 450,000 |

| Daily Averages by Months | | | | |
|---|---|---|---|---|
| 1926: | Gulf | Pacific | Imports | Total |
| June | 396,000 | 104,000 | 135,000 | 635,000 |
| May | 318,000 | 66,000 | 139,000 | 523,000 |
| April | 326,000 | 92,000 | 146,000 | 564,000 |
| March | 317,000 | 97,000 | 178,000 | 592,000 |
| Feb. | 332,000 | 73,000 | 122,000 | 527,000 |
| Jan. | 279,000 | 59,000 | 96,000 | 434,000 |
| 1925: | | | | |
| Dec. | 298,000 | 56,000 | 103,000 | 457,000 |
| Nov. | 259,000 | 36,000 | 92,000 | 387,000 |
| Oct. | 242,000 | 36,000 | 102,000 | 387,000 |
| Sept. | 306,000 | 66,000 | 76,000 | 448,000 |
| Aug. | 291,000 | 54,000 | 90,000 | 435,000 |
| July | 391,000 | 63,000 | 107,000 | 561,000 |

The foregoing estimates are based on the carrying capacity of incoming oil-laden tankers.

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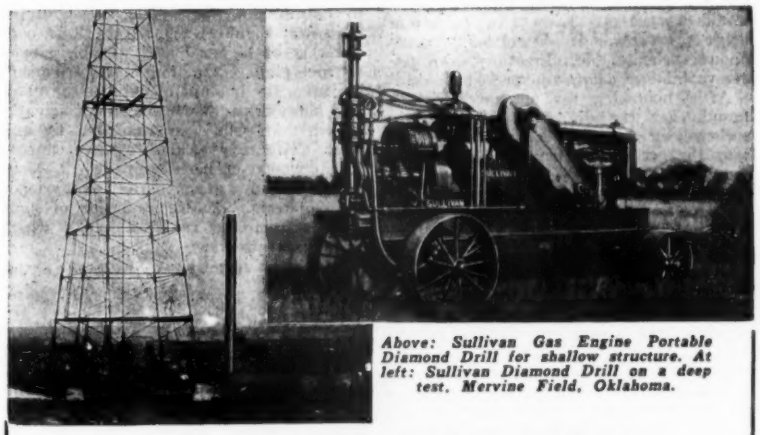

Above: Sullivan Gas Engine Portable Diamond Drill for shallow structure. At left: Sullivan Diamond Drill on a deep test, Mervine Field, Oklahoma.

Simplifying Exploration With the Diamond Drill

During the past six years, one job after another has shown the diamond core drill to be the most accurate, most economical tool for locating oil. Cores brought up by these drills, enable the geologist to say definitely whether oil is present and at what depth it may be expected.

*Why 40 Leading Oil Companies Use Diamond Drills*

Core drilling with a diamond core drill does away with guesswork, the core forming conclusive evidence of the value of the property. The diamond drill will take a perfect core in hard formation or in soft formation, and when necessary it will employ mud fluid. Thus it is a standard and rotary rig in one.

Pressure control is another important feature, enabling the operator to continue drilling against heavy oil or gas pressure and when oil is struck, to remove the stem without damage to the tools or rig. The diamond drill is now used extensively for shallow structure drilling, deep tests and production work.

*Diamond Drilling for Oil, Bulletin 1580-O.*

SULLIVAN MACHINERY COMPANY

88 EAST ADAMS ST., CHICAGO, ILLINOIS U.S.A.

Tulsa, Garber, Okla., Dallas

# Efficiencies of Absorption Towers

## Impossible to Arrive at Any Accurate Conclusion Regarding Operations Due to Errors in Testing Methods

By L. O. Warner*

This informal report covers the general outline and purpose of the tests, also such conclusions as may be drawn from the data so far acquired. The investigation was authorized for the purpose of determining the relative efficiency of four different types of absorption towers; namely, the Braun surface-contact absorber, Campbell perforated-plate absorber, Newton foam absorber and the Southwestern bubble-cap absorber.

In order that the tests might be entirely impartial and more comprehensive, the Signal Hill Gasoline Co. invited others interested to participate. Several companies have contributed to the investigation and all data available has been drawn upon for this report.

### Outline of Tests

In outlining the tests it was assumed that in a plant having adequate oil denuding capacity, the factors controlling the efficiency would be: 1. Rate of gas flow. 2. Gas pressure. 3. Rate of oil circulation. 4. Temperature of the oil entering. The temperature of the gas entering was purposely omitted as a variable since the temperature of the oil at the bottom of the absorber is considerably higher and would quickly warm the entering gas whose heat capacity is low compared with that of oil.

The proposed experiments would determine the following: 1. Rate of oil circulation required to commercially dry the rated gas capacity of the absorber. 2. The effect of oil temperature upon the gasoline content of the residue gas. 3. Flexibility, i. e. the efficiency at which the oil rate determined (in 1 above) would dry the gas at lower gas rates and lower pressures. 4. Effect of pressure upon efficiency. 5. Pressure drop under variable gas flow and pressure.

After operating the absorbers it was found that the difference between absorbers was slight. It is, therefore, necessary that critical tests be applied to determine their relative efficiencies.

The oil rate requirements are fundamental and after a preliminary study of pressure drop, were selected for the first experiments. This report is concerned only with the oil rate requirements as a variable. Many difficulties were encountered, the most serious being a rapid and permanent decline in the volume of gas available. Tests were started at 20 pounds pressure using the available supply to compare our methods of testing with plant extraction. It was soon seen that relative efficiencies would be more clearly shown if the absorbers were operated at their rated capacity. Additional gas was obtained (through the courtesy of the Signal Gasoline Co.) but it was impossible to operate at more than 80 to 90 per cent of the rated capacity of 3,000,000 cubic feet per day under 30 pounds pressure.

### Test Procedure

Length of Tests. A brief outline of the procedure used in the tests and the methods of obtaining samples follows. Approximate conditions were maintained for a period of several hours in order to allow the oil to come to equilibrium. The duration of each test was 2½ hours and during that time ten readings were taken of plant temperatures and pressures to obtain the average. This period was selected as being ample to allow average samples to be taken and at the same time short enough that conditions could be maintained constant within reasonable limits. The factors desired constant were maintained as closely as possible throughout each test. The greatest variation was in the rate of gas flow which fluctuated 18 per cent in one test but averaged only 3.9 per cent.

Gas flow was measured by orifice meters on the inlet and outlet of the absorbers. Oil flow was measured by a temperature compensated Bassler liquid meter. During the tests an orifice was installed to measure the volume of vapors from the recompressor vent.

### Method of Sampling

Continuous samples of inlet and outlet gases were collected over water in tanks holding approximately 150 cubic feet. Charcoal adsorption was made from these gases after the tests. Samples were also taken during the tests. Samples of oil to the absorber and from the absorber were taken continuously into containers. The fat oil was held under a pressure of 20 pounds during the test and the pressure slowly dropped to zero before the samples for distillation were withdrawn. Oil samples were also taken directly from the absorbers.

### Comparison of Tests With Plant

In these preliminary tests we changed our methods of testing when experience indicated. Because of these changes and the operation of absorbers at various pressures and capacities, the available data constitutes a better comparison of testing methods than of absorbers.

Plant Extraction: The plant extraction measured over short periods was very erratic because of gas pockets in the condenser and was not considered a reliable measure of efficiency. In certain tests the plant was operated for 24 hours to obtain the rate. The gas obtained from the Signal Gasoline Co. was consistently of higher quality which caused the net plant extraction to vary depending upon the amount of outside gas used. The plant extraction was also consistently higher than would be indicated by any tests. This may be due to three causes: 1. Inclusion of more propane. 2. More efficient condensation in the recompressor than in tests. 3. Recirculation of some vapors from the rundown tanks which are under pressure.

**Comparative Indicated Extraction by Gas Tests**

| C-0lb Ice | B-30lb 60°F. | D-30lb 60°F. | A-30lb Ice |
|---|---|---|---|
| Average Test— | | | |
| 1.164 | 1.552 | 1.671 | 1.991 |
| Average Plant— | | | |
| 1.844 | 1.708 | 1.844 | 2.117 |
| Per Cent Plant— | | | |
| 63.07 | 90.87 | 90.62 | 94.04 |

**Comparative Indicated Extraction by Oil Distillations**

| D-0lb Ice | E-0lb Ice | E-0lb Ice | $CO_2$ Snow |
|---|---|---|---|
| Average Test— | | | |
| 1.075 | 1.312 | 1.716 | |
| Average Plant— | | | |
| 1.844 | 1.687 | 1.687 | |
| Per Cent Plant— | | | |
| 58.29 | 77.77 | 101.72 | |

### Oil Distillations

The fractionating column and large iced condenser using 3,500 cc. samples seemed to give the best results on oil distillations but were consistently below the actual plant productions. Even so, the indicated extraction was 23.2 greater than that by atmospheric charcoal. The net extractions indicated by the net saturation and circulation of oil averaged 77.8 per cent of the average plant extraction. Of the two methods of obtaining more complete condensation, pressure or low temperature, the latter was chosen for simplicity. In the later tests the noncondensable vapors from the atmospheric distillation were passed into a condenser immersed in a mixture of carbon-dioxide snow and gasoline. The total condensate thus obtained when used to compute the indicated plant production averaged 101.7 per cent. This development described in detail by the company which made these tests is worthy of a report in itself. The pressure distillation of fat oil is also being investigated by several companies.

*Before annual meeting of California Natural Gasoline Association held at Los Angeles, Calif., June 16, 1926.

### TESTING METHODS

Several months ago the owners of four well-known types of absorbers agreed to install their equipment for a comparative test in order that the natural gasoline industry of California might determine their relative efficiency.

The accompanying preliminary report details some of the difficulties encountered by those conducting the tests. It was found that the errors and differences in testing methods were such a vital factor that it was impossible to arrive at any accurate conclusion as to the efficiencies of the absorbers.

Standardization of testing methods is one of the most important problems confronting the entire natural gasoline industry. In this article many interesting phases of this problem are discussed.

The gas tests were those used by the companies participating; namely, atmospheric distillation—30 pounds 60 degrees Fahrenheit and the 30-pound iced condenser. The physical refrigeration method gave higher quality on inlet gases but has not proven so satisfactory on very lean gases which are the most important in comparing tower efficiencies. The development of gas tests has been to obtain more complete condensation during distillation. The procedure of evacuating the charcoal before removal from the absorber tube was compared during the tests and clearly shows that in the atmospheric distillation more consistent and higher results may be obtained. Also the time of distillation is shortened by removal of inert vapors before the addition of glycerin.

The net extraction indicated by the atmospheric charcoal tests averaged 65.1 per cent of the plant production. The net extraction by 30 pounds 60 degrees Fahrenheit charcoal tests averaged 90.7 per cent of the average plant extraction. The net extraction by 30 pounds iced charcoal test averaged 94.0 per cent. There was a much larger variation in these net figures than in the average inlet or discharge qualities since the percentage error has been more than doubled by taking the difference between two tests. The atmospheric distillation cannot be depended upon to give an indication of the commercial production obtained when the plant employs a recompressor.

The content of the lean gas was fairly consistent by the same operator. When the results of pressure distillations were plotted against the ratio of oil to gas a smooth curve could be obtained which gave no indication of an equilibrium at the highest oil circulation employed (60 gallons per thousand cubic feet.) In the case of the atmospheric distillations, however, indications of equilibrium were obtained with about one-half the maximum oil circulation employed. The variations thereafter appeared to follow the gasoline content of the lean oil.

Gas fractionations were not employed in these preliminary tests although arrangements were made through the courtesy of the Carbide & Carbon Chemicals Corp. These tests are more reliable and give more information than any other method of gas testing and no doubt will be used when tests are resumed.

### Gasoline Tests

Engler distillations upon the gasoline produced by the plant afforded no measure of the absorber efficiency. The recovery varied less than 5 per cent when the oil to gas ratio was varied 223 per cent. The vapor pressure at 100 degrees varied less than 3 pounds when the oil to gas ratio was varied 319 per cent. This is no doubt due to the operation of the recompressor under constant conditions throughout the tests.

### Special Comparison Test

The variation in charcoal tests reported by different operators suggested a comparison in which the absorption variables were eliminated as far as possible. Two lean gases of different quality were used. Gas designated "A" contained 0.3 G.P.M. and "B" 0.42 G.P.M. Two hundred gram samples of uniform new charcoal in 1-inch tubes were saturated to the top of the fourth temperature rise with gas from the holders at a constant rate through the same meter. Each of the three operators distilled three samples from each gas in his own laboratory at 30 pounds pressure. Comparison of results showed the following:

1. The yield from the iced condenser averaged 162.6 per cent of the average 30 pounds 60 degrees Fahrenheit tests of gas "A" and 190.4 per cent on gas "B." The average yield by operator B, using substantially the same apparatus, as operator C differed by 11.0 per cent on gas A and 18.9 per cent on gas B.

2. The average maximum variation between the highest and lowest test by each operator was 3.0 per cent on gas A and 12.6 per cent on gas B.

This clearly shows that the personal element has considerable effect. This has also probably been responsible for the lack of standardization in gas testing. An operator finding that he can check himself with a maximum variation of 3 per cent (1.5 per cent plus and minus) would be inclined to place confidence in his results although differing from other operators' results.

There are a great many places in the charcoal test where the personal element is introduced. There are six in the adsorption, six in the distillation and four in the weathering. In the adsorption—1. Time of purging the meter. 2. Accuracy of meter. 3. Drying gas before or after metering. 4. Amount of charcoal and shape of tube. 5. Rate of adsorption 6. Degree of saturation. (Where an orifice meter is used the determination of specific gravity is another factor). In the distillation—1. Design of still and condenser. 2. Distillation medium employed and amount. 3. Rate of heating. 4. Control of pressure. 5. Control of condenser temperature. 6. Reading volume of condensate. In weathering—1. Temperature of the bath. 2. Method of venting—(either to atmosphere or through condenser tube.) 3. Rate of venting to atmospheric pressure. 4. Time of venting before reaching 60 degrees Fahrenheit.

### Report on Test

Quoting from the report of one of the companies participating—"The results of these comparative charcoal tests show conclusively that while the charcoal method of testing will give results which will check within 5 to 10 per cent when conducted by the same operator, two operators can hardly be expected to check within 15 to 50 per cent. Obviously such an inaccurate method of testing cannot be employed to test the relative absorption efficiencies of towers whose operating efficiencies are of the same order as the percentage error, namely, 15 to 30 per cent.

As to sources of error in the distillation of the charcoal, the temperature control on the condenser affords the possibility of the greatest error. When the

charcoal method was first investigated by this company in the summer of 1925, a number of tests were made on fairly uniform gases in which the effect of condenser temperature on the charcoal results were studied. The outlet of a certain plant tested 1.475 gallons thousand at 30 pounds, when the condenser was kept at 60 degrees Fahrenheit but the same gas gave a result of 0.76 gallons thousand at 30 pounds when the condenser was held at 40 degrees Fahrenheit. This is a difference of 0.014 gallons thousand per degree Fahrenheit difference in condenser temperature or 3 per cent per degree Fahrenheit in the result. Similar tests on the outlet of another plant producing a 0.65 gallons thousand outlet gas, gave 2.3 per cent difference per degree Fahrenheit in the results. At higher qualities of gas this variation due to condenser temperature falls off; for example, the inlet of this plant was 2.71 gallons per thousand at 30 pounds when the condenser was held at 60 degrees Fahrenheit and 3.11 gallons per thousand at 30 pounds when held at 40 degrees Fahrenheit, a difference of 0.74 per cent per degree Fahrenheit.

In the charcoal distillation an operator generally controls the condenser temperature with 2 degrees Fahrenheit or 60 degrees Fahrenheit and reads the gasoline distillate to within 0.5 cc. It can be readily seen from the above discussion that if two operators control their tests on an outlet gas within the limits mentioned above that a 12 per cent deviation may be expected from condenser temperature and a 3 per cent deviation may be expected from reading the volume of the gasoline distillate.

The matter of distillation discrepancies will be looked into further.

### Gas Test Comment

In commenting upon the gas tests, another participating company says: "It is evident that the condensate obtained by these various means would differ in quality. However, in no instance was there obtained any measure of this quality. This is undoubtedly a vital factor in many tests and new equipment, designed to give some measure of the condensate quality, such as gravity and vapor would prove very helpful."

In regard to the distillation of oil the same report continues—"It might be desirable to design a still which could be used to procure the necessary oil sample under its existing pressure and then distill the sample under pressure eliminating the undesirable features of pressure release, agitation, increase in temperature, etc., afforded by the act of transferring the sample from sample container to still.

"From the mass of data obtained it is quite evident that there is great need of more efficiently designed equipment, better methods of sampling and better methods of testing before it is possible to obtain a true idea of the relative performance and efficiency of absorbers and other equipment."

This laboratory concurs in the conclusions reached above. We also believe the distillation with glycerin introduces another error whose effect is large and again dependent upon the personal element.

Glycerin, as is well known, undergoes considerable decomposition at the higher temperatures. This decomposition begins, however, at a rather low temperature and one or more of the products are very soluble in gasoline, imparting to the gasoline a color. This material has a distinct acid reaction. In a preliminary test 20 cc. of stable gasoline (b.p. 150-220 degrees Fahrenheit) were added to new charcoal and C. P. glycerin and were distilled over until a vapor temperature of 500 degrees Fahrenheit was reached. The gasoline fraction measured 23.5 cc., an increase of 17.5 per cent and the gravity dropped 17.1 degrees A.P.I.

Glycerin which had been distilled over in the usual manner when extracted with an equal volume of gasoline yielded 7 per cent by volume to the gasoline. A 30 cc. sample of gasoline which had been distilled over at the same time when treated with a KOH solution lost 6 2/3 per cent by volume and gave a brown substance insoluble in both gasoline and the KOH solution which floated between the two liquids. The pressure distillation with glycerine also produces large volumes of gases which leave the condenser saturated with gasoline introducing additional losses. Some of these gases dissolve in the gasoline and cause the gasoline to boil more violently during venting. These dissolved gases would complicate the measurement of vapor pressure of the charcoal product.

In consideration of these difficulties and the lack of standardization, we recommend that further tests of absorbers be deferred until the errors and differences in testing methods can be reduced below the differences in absorber efficiencies.

## Executive Order Land Leasing Bill Vetoed As a Discrimination

By Charles E. Kern
*Washington Bureau, The Oil and Gas Journal*

WASHINGTON, D. C., July 3.—The executive order land leasing bill recently enacted by Congress, has been vetoed by President Coolidge on the ground that its enactment would result in unwarranted discrimination among applicants for oil leases. This bill was to authorize oil and gas mining leases upon unallotted land within executive order Indian reservations and applied to approximately 23,000,000 acres, most of which land is in the Navajo Reservation in Arizona, New Mexico and Utah.

When this bill came before the Senate after it had passed the House of Representatives with amendments and before the Senate accepted those amendments, Senator Brattom (Dem.) of New Mexico, declared that all of the 20 permittees who would be entitled to their permits under this bill was affiliated with the big oil companies. In respect to them, he said, Congress was saying: "If you have done any one or all of three things you are entitled to a permit and the Secretary of the Interior shall issue it to you." These three things were the expenditure of money or labor in surveying, building a railroad or drilling or contributing towards drilling.

As to the applicants who are individuals and have no relation with the big oil companies the same rule is not applied, he said.

After Senator Cameron stated that the bill had been reported to the Senate 6 to 1, the only adverse being by Senator Bratton, the Senate passed the bill. Now President Coolidge seems to have taken the same stand practically that was taken by Senator Bratton. The veto of the President follows:

"To the Senate:

"Herewith returned, without approval, is Senate 4152, a bill entitled 'An Act to authorize oil and gas mining leases upon unallotted lands within executive order Indian reservations, and for other purposes.' On June 9, 1922, the Department of the Interior construed the General Leasing Act of February 25, 1920, (41 Stat., 437), as applicable to lands included in executive order Indian reservations. Under this construction 20 permits were issued dating from June 17, 1922, to October 14, 1923. On May 27, 1924, the Attorney General of the United States rendered an opinion that the leasing act did not apply to executive order Indian reservations. At that time more than 400 applications on such reservations were pending. The attorney general took action to secure the cancellation of the 20 permits previously issued in a suit entitled, United States versus Harrison et al, brought in the District Court of Utah and now pending in the Supreme Court of the United States on certificate from the Circuit Court of Appeals for the Eighth Circuit. This case was decided in favor of the defendants in the District Court.

"While these conditions existed the present bill was introduced by which the title to the 20 permits would virtually be validated, and the 400 applications would virtually be refused. It is true that the holders of the 20 permits are possessed of certain equities by reason of expenditures made, which do not apply to the other 400, but it is also true that the other 400 would be obliged to drill wells, build roads and make surveys, while the 20 permits are validated because they may have done but one of these three things. The application of a different rule as between these two classes is somewhat difficult to justify. The fact also that this bill undertakes to decide by legislation a question which is pending in court brings the bill into a position of doubtful propriety. If the interested parties have rights under the law, they will be protected in their enjoyment by the decision of the court. If they have no such rights a great deal of the reason for the legislation fails so far as they are concerned. Aside from a possible delay in securing a decision by which opportunity will be given for the development of these lands more quickly, it would not appear that any legal or equitable injury can accrue to the holders of these permits or to the section of the country interested.

"Various rumors are being circulated relative to statements alleged to have been made by parties interested in this legislation which do not seriously affect the merits of the bill, and as they come from persons seeming to have adverse interests perhaps they are susceptible of explanation. I am confident the bill has been passed in entire good faith, but it is claimed that the 20 permits would secure a disproportionate advantage, under its provisions, over the others who are interested in applications which they have made.

"Provision has been made in the bill for the payment of certain moneys to Indians, with which I am in hearty approval and can see no reason for refusing to approve such a measure had it stood alone. If it is desired to make such provision for the Indians, a bill to that effect can be enacted without attaching to it the question of ratifying the titles of some and adversely affecting the applications of others.

"CALVIN COOLIDGE."

## Late Fields

(Continued from Page 38)

drilled 22 feet into the sand and started at 30 bbls. an hour; Roeser & Pendleton and Marland production is now 5,800 bbls. a day. Marland Oil Co.'s No. 1 Chalk, in Howard County, swabbed 55 bbls. Roberts No. 5 Roberts in Young County extends the north pool northwest. It swabbed 200 bbls. the first 24 hours from sand at 867-68 feet.

### OKLAHOMA

What may be the forerunner of another Wilcox sand pool is Frank Billingslea's No. 1 Wright, SE cor. SE Section 17-17-8, Creek County, which has 2,000 feet of oil in the hole from sand found 3,492-3,523 feet. The well is shut down, and will be drilled deeper upon the erection of additional tankage.

T. B. Slick's No. 1 Alexander, SE cor. SW SE, Section 7-9-8, Seminole County, has 2,200 feet of oil in the hole from sand 3,241-58 feet. The well will be swabbed and will be drilled deeper.

Amerada Petroleum Corp.'s No. 1 Simmer, SW cor. NW, Section 18-10-11, Okfuskee County, is swabbing 100 bbls. daily. It has been drilled 2 feet deeper to a total depth of 3,647 feet.

Magnolia Petroleum Co.'s No. 2 Park, SE cor. SW, Section 32-8-8, Seminole County, made 327 bbls. from sand 4,019-22 feet.

### "PRINCESS TEXAS" WEDS

CORSICANA, Tex., July 3.—Alvin Zwerneman and Miss Ruby Morgan were married here at high noon in the Church of Christ, Friday, the Rev. J. P. Sewell officiating. Zwerneman is district manager for the Axelson Machine Co. of Los Angeles. Miss Morgan is the daughter of Mr. and Mrs. J. C. Morgan of Corsicana and was "Princess Texas" at the International Petroleum Institute convention in Tulsa, Okla., in 1925. The couple will make their home in Los Angeles.

## TO EXTEND INSURANCE PLANS TO CALIFORNIA

NEW YORK, July 3.—The Oil Insurance Association has recommended to its executive committee that it extend the operations of the Association to California. There are still a number of important details to be worked out before the Oil Insurance Association will actually begin writing in California and these were left to the executive committee.

The decision reached is considered very important. Facilities for writing fire insurance on oil in California are reported as very limited since the terrific oil fires in April, most of the companies having discontinued writing the class individually since then. The Oil Insurance Association will be in a position to furnish the larger portion of the facilities available and to exert considerable influence on the oil companies to provide oil storage in such units that they will be insurable.

As the oil interests, following the big fires, indicated their willingness to cooperate with the insurance interests, it is possible that in time smaller storage reservoirs with additional safeguards will be introduced, which will render remote the possibility of a recurrence of such losses as those sustained in April. It is understood that the Oil Insurance Association does not purpose writing insurance on oil in the great earthen reservoirs such as exist in some of the California fields at present. If the amount of oil stored in each is reduced and additional safeguards are provided, it may be possible to write these risks later on.

### OIL EXHIBITION DATES

LONDON, England, July 3. — The management of the Crystal Palace announces that the International Oil Exhibition which was originally intended to be held this year has now been fixed for May 1927. The opening date will be May 4 next year, and the exhibition will close 17 days later. The exhibition is to be strictly limited to companies and firms directly associated with the production, refining, transportation and distribution of petroleum products, and is under the patronage of the Institution of Petroleum Technologists, the Oil Industries, Club, etc. Over 100,000 square feet of exhibit space will be available on the main floor of the Crystal Palace. Applications for participation have already been received from British, American and continental manufacturers.

### OIL SENT TO SINGAPORE

WASHINGTON, July 3.—There was a large petroleum importation in the Straits Settlements in 1925, especially of kerosene, the principal illuminant among the native population, of fuel oil for the needs of the large shipping in the principal ports and of gasoline, according to a Consular report to the Department of Commerce from Singapore. The United States was well represented in this trade in 1924 and 1925, although its contribution decreased in the two first named products in 1925, and showed only a slight increase in gasoline.

### TO TEST NOVA SCOTIA

NEW YORK, July 3.—Henry L. Doherty & Co. have closed a contract for exploration on virtually all of the area having oil possibilities in the Province of Nova Scotia, Canada. The territory embraces about 5,000,000 acres. The same company has made a contract for the exploration rights in the Island of Pictou, off the coast of Nova Scotia. This is the second contract signed by this company in Canada. The rights to the Province of Prince Edward Island were obtained about a year ago, and drilling has progressed to a depth of about 1,400 feet.

XUM

# REFINING AND MARKETING

## ROCK ISLAND PLANNING ROAD TO AMARILLO OIL

The building of a new railroad through the oil and gas fields north of Amarillo, Tex., has been announced from the offices of the Rock Island lines by James E. Gorman, president of the company.

"The board of directors of the Rock Island Railway lines has authorized the incorporation and construction of the Amarillo and Liberal Railroad.

"This new line will traverse the extensive oil and gas fields north of Amarillo. Bids for construction work have been asked and actual construction will start north from Amarillo at the earliest possible date."

### JOINED JENKINS CO.

Eugene P. Brown, formerly connected with the research department of Standard Oil Co. of Indiana, has joined the

**Eugene P. Brown**

staff of the Jenkins Petroleum Process Co., assistant to the president. Mr. Brown will have charge of research for the company. A sketch of Mr. Brown appeared in the July 1 issue of The Oil and Gas Journal, page 132.

### OIL DISTRIBUTORS MERGE

CHATHAM, Ont., July 3.—The oldest independent oil distributing agency in Saskatchewan, the Farmers Oil Co., and the Hy-Grade Oil Co. passed out of existence recently when they were amalgamated under the new name of Puritan Oil Co. The Farmers Oil Co. has operated in Saskatchewan for 12 years, and two years ago acquired the plant and good will of the Pure Oil Co., which had distribution in Regina and other communities. The Hy-Grade Oil Co. has carried on business in Regina and adjacent territory for the past 10 years.

### THREE KILLED IN EXPLOSION

Two men were instantly killed and a third died later from burns when a high pressure still exploded July 4th, at the Cushing, Okla. refinery of the Shaffer Oil & Refining Co. The two men instantly killed were B. W. Morris and Will Henshaw. Lee Riggs died the same day from burns. A fourth workman, B. Beaver, was seriously injured but is expected to recover.

There were no other witnesses to the explosion and the exact cause is not known. Property loss will not exceed $5,000.

## TANKWAGON PRICES IN 50 CITIES PRACTICALLY STATIONARY IN JUNE

Tankwagon prices in the country were practically stationary during June. An increase of 0.08 cent in the average price in the 50 representative cities compiled by The Oil and Gas Journal was shown but this was comparatively small.

However, the small increase, set another new high mark in tankwagon prices since July 1, 1923, when, as mentioned in the June 1 report, the average price was 19.89 cents.

The only general changes during June were in the marketing territories of the Magnolia Petroleum Co. and the Standard Oil Co. of Louisiana. The advances came in the early part of the month. The Magnolia Petroleum Co. later in the month reduced Oklahoma prices bringing the postings back to the June 1 level.

The steady tankwagon markets during June came as a slight reaction to the rapidly advancing prices during May following general crude advances in every area except the Pacific Coast. Further tankwagon advances were prohibited by the unsettled refined markets during June.

**GASOLINE PRICES EFFECTIVE JULY 1, 1926**

**Table showing gasoline tankwagon prices as of July 1, 1926, exclusive of taxes, in 50 representative cities, including the amount and the date of changes since June 1, 1926. High and low prices and state taxes also given.**

| | Prices June 1 | June Changes | | Prices July 1 | High and Low 1925 | | High and Low 1924 | | Taxes July 1 1926 |
|---|---|---|---|---|---|---|---|---|---|
| Birmingham, Ala. | 20.0 | .... | .... | 20.0 | 20.0 | 13.0 | 20.0 | 13.0 | 2.0 |
| Phoenix, Ariz. | 22.0 | .... | .... | 22.0 | 20.0 | 18.0 | 20.0 | 16.0 | 3.0 |
| Little Rock, Ark. | 17.0 | 18.0 | .... | 18.0 | 19.0 | 12.0 | 18.0 | 13.0 | 4.0 |
| San Francisco, Cal. | 16.0 | .... | .... | 16.0 | 15.0 | 13.0 | 15.0 | 11.0 | 2.0 |
| Denver, Colo. | 20.0 | .... | .... | 20.0 | 20.0 | 12.0 | 19.0 | 12.0 | 2.0 |
| Hartford, Conn. | 21.0 | .... | .... | 21.0 | 21.0 | 15.0 | 20.0 | 13.0 | 2.0 |
| Dover, Del. | 20.0 | .... | .... | 20.0 | 21.0 | 15.0 | 20.0 | 14.0 | 2.0 |
| Jacksonville, Fla. | 19.0 | .... | .... | 19.0 | 19.0 | 12.0 | 19.0 | 12.0 | 4.0 |
| *Atlanta, Ga. | 21.0 | .... | .... | 21.0 | 21.0 | 14.0 | 19.0 | 11.0 | 3.5 |
| Boise, Idaho | 24.0 | .... | .... | 24.0 | 21.5 | 19.0 | 22.5 | 18.0 | 3.0 |
| Peoria, Ill. | 19.2 | .... | .... | 19.2 | 19.2 | 10.5 | 18.2 | 13.0 | ... |
| †Chicago, Ill. | 18.0 | .... | .... | 18.0 | 18.0 | 13.0 | 18.0 | 13.0 | ... |
| Indianapolis, Ind. | 19.2 | .... | .... | 19.2 | 19.2 | 13.2 | 18.2 | 13.2 | 3.0 |
| Des Moines, Iowa | 19.5 | .... | .... | 19.5 | 19.5 | 13.5 | 18.5 | 13.5 | 2.0 |
| †Wichita, Kans. | 16.8 | .... | .... | 16.8 | 18.8 | 8.8 | 17.8 | 12.8 | 2.0 |
| Louisville, Ky. | 20.0 | .... | .... | 20.0 | 19.0 | 12.0 | 19.0 | 12.0 | 5.0 |
| New Orleans, La. | 16.5 | 4 17.5 | .... | 17.5 | 18.5 | 11.5 | 16.5 | 11.5 | 3.0 |
| Augusta, Me. | 21.0 | .... | .... | 21.0 | 22.0 | 15.0 | 19.0 | 13.0 | 3.0 |
| Baltimore, Md. | 19.0 | .... | .... | 19.0 | 19.0 | 13.0 | 19.0 | 13.0 | 2.0 |
| Springfield, Mass. | 21.0 | .... | .... | 21.0 | 21.0 | 15.0 | 20.0 | 13.0 | ... |
| Detroit, Mich | 19.8 | .... | .... | 19.8 | 19.8 | 13.8 | 18.8 | 13.8 | 2.0 |
| Duluth, Minn. | 20.5 | .... | .... | 20.5 | 20.5 | 13.5 | 19.2 | 14.5 | 2.0 |
| Natchez, Miss. | 18.5 | .... | .... | 18.5 | 18.5 | 11.5 | 18.5 | 11.5 | 4.0 |
| Kansas City, Mo. | 18.9 | .... | .... | 18.9 | 18.9 | 12.9 | 17.9 | 11.9 | 3.0 |
| Helena, Mont. | 24.0 | .... | .... | 24.0 | 24.0 | 18.0 | 23.0 | 18.0 | 2.0 |
| Omaha, Neb. | 19.25 | .... | .... | 19.25 | 19.25 | 10.0 | 18.25 | 11.0 | 2.0 |
| Reno, Nev. | 19.5 | .... | .... | 19.5 | 18.5 | 16.5 | 18.5 | 14.5 | 4.0 |
| Newark, N. J. | 19.0 | .... | .... | 19.0 | 19.0 | 13.5 | 19.5 | 13.5 | ... |
| Albuquerque, N. M. | 26.5 | .... | .... | 26.5 | 23.5 | 19.5 | 23.0 | 18.0 | 3.0 |
| New York, N. Y. | 21.0 | .... | .... | 21.0 | 22.0 | 15.0 | 20.0 | 14.0 | ... |
| Charlotte, N. C. | 19.5 | .... | .... | 19.5 | 20.0 | 12.0 | 19.0 | 12.0 | 4.0 |
| Fargo, N. D. | 21.9 | .... | .... | 21.9 | 20.9 | 14.9 | 19.6 | 14.9 | 1.0 |
| Cleveland, Ohio | 20.0 | .... | .... | 20.0 | 18.5 | 15.0 | 20.0 | 15.0 | 3.0 |
| Tulsa, Okla. | 16.0 | 3 17.0 | 26 16.0 | 16.0 | 18.0 | 9.5 | 18.0 | 9.5 | 3.0 |
| Portland, Ore. | 16.0 | .... | .... | 16.0 | 15.0 | 13.0 | 16.0 | 12.0 | 3.0 |
| ‡Philadelphia, Pa. | 20.0 | .... | .... | 20.0 | 21.0 | 15.0 | 20.0 | 14.0 | 2.0 |
| Providence, R. I. | 21.0 | .... | .... | 21.0 | 22.0 | 15.0 | 20.0 | 13.0 | 1.0 |
| Charleston, S. C. | 19.5 | .... | .... | 19.5 | 20.5 | 12.5 | 19.0 | 12.5 | 5.0 |
| Huron, S. D. | 20.5 | .... | .... | 20.5 | 20.0 | 13.0 | 20.0 | 15.0 | 3.0 |
| Memphis, Tenn. | 17.0 | 4 18.0 | .... | 18.0 | 18.0 | 10.5 | 18.0 | 12.0 | 3.0 |
| §Dallas, Tex. | 16.0 | 3 17.0 | .... | 17.0 | 18.0 | 10.0 | 17.0 | 9.0 | 1.0 |
| Salt Lake City, Ut. | 22.5 | .... | .... | 22.5 | 21.5 | 17.5 | 21.5 | 16.5 | 3.5 |
| Burlington, Vt. | 21.0 | .... | .... | 21.0 | 22.0 | 15.0 | 19.0 | 13.0 | 2.0 |
| Norfolk, Va. | 19.0 | .... | .... | 19.0 | 20.0 | 14.5 | 19.0 | 14.5 | 4.5 |
| Washington, D. C. | 19.0 | .... | .... | 19.0 | 19.0 | 14.0 | 19.0 | 14.0 | 2.0 |
| Charleston, W. Va. | 19.0 | .... | .... | 19.0 | 19.0 | 14.0 | 19.0 | 14.0 | 3.5 |
| Milwaukee, Wis. | 19.1 | .... | .... | 19.1 | 19.1 | 13.1 | 18.1 | 13.1 | 2.0 |
| Casper, Wyo. | 20.0 | .... | .... | 20.0 | 20.0 | 14.0 | 19.0 | 14.0 | 2.5 |
| Seattle, Wash. | 16.0 | .... | .... | 16.0 | 15.0 | 13.0 | 16.0 | 12.0 | 2.0 |
| Minneapolis, Minn. | 20.2 | .... | .... | 20.2 | 20.2 | 13.2 | 18.9 | 12.0 | 2.0 |
| Average price | 19.607 | .... | .... | 19.687 | 19.647 | 13.629 | 18.989 | 13.27 | 2.43 |

*Does not include ½-cent inspection fee. †Dump of less than 100 gallons at Chicago and 50 gallons at Wichita 1 cent higher. ‡Tax paid by retail dealer. §Prices effective May 5 based on 3-cent discount from service station posting as no tankwagon schedule is maintained in Texas.

| Average Tank Wagon Prices in Fifty Cities | |
|---|---|
| July 1 | 19.387 |
| August 1 | 19.413 |
| September 1 | 16.703 |
| October 1 | 15.808 |
| November 1 | 15.528 |
| December 1 | 15.763 |
| January 1, 1926 | 16.133 |
| February 1 | 16.213 |
| March 1 | 17.267 |
| April 1 | 18.517 |
| May 1 | 18.487 |
| June 1 | 19.607 |
| July 1 | 19.687 |

## NEBRASKA JOBBERS DISCUSS TAXATION

Approximately 150 jobbers and representatives of refineries and supply companies attended a meeting held at Grand Island, Neb., last week under the auspices of the Nebraska Independent Oil Men's Association. The business sessions were largely devoted to matters of interest to jobbers in the state. George Coryell, president of the association, recommended that the jobbers use their influence to have the gasoline inspection and collection departments of the state united under one head.

He also recommended that there be no exemptions in the payment of the gasoline tax. He was also in favor of having the dealer pay the tax when the tank car was imported into the state. The jobbers went on record as not favoring the proposed 1-cent increase in the state tax.

## TULSAN IS AWARDED PRIZE BY A. S. M. E.

Fred Thilenius, assistant master mechanic of the Prairie Pipe Line Co., southern division, with headquarters in Tulsa, has been awarded a prize of $100 by the American Society of Mechanical Engineers for the best paper dealing with mechanical engineering presented at the spring meeting of the society at San Francisco, June 28 to July 1.

The subject of Mr. Thilenius' prize-winning paper was "Diesel Engines on Pipelines" and his presentation was chosen in competition with papers from mechanical engineers from all over the country. It was originally read before the Mid-Continent Section at Tulsa and was published in The Oil and Gas Journal of April 29, 1926.

### NAMED SALES MANAGER

CHICAGO, July 1.—Hughes & Co., marketers of fuel oil and tankwagon distributors in this city, announce that Charles P. Hirth, who has been their Michigan representative, has been appointed sales manager of their wholesale division with headquarters at Chicago. To succeed Mr. Hirth in Michigan, Kenneth McVittie, formerly purchasing agent of the Eaton Spring & Axle Co. of Pontiac, Mich., has been made Michigan representative of Hughes & Co.

### CRITICIZES GASOLINE ADVANCE

CHICAGO, July 3.—The bulletin of the Wisconsin State Marketing Bureau in its present issue criticizes the advances in the tankwagon scale for gasoline in April and May of this year as an "unjustified increase of 10 per cent in the summer tourists' gasoline bill."

# TANKS

## Can Generally Be Shipped From Stock

## Complete Field Erecting Equipment and Competent Men To Make Prompt Fabrication

**Graver Builds**

**Tanks**
- *Welded*
- *Riveted*
- *Riveted* (Riveted, Inside & Outside Welded)
- *Structural Supports*
- *Tower Tanks*
- *Standpipes*
- *Any Size Tanks Erected Anywhere*

**Refinery Equipment**

**Jenkins Cracking Process**

**Stacks-Breechings**

**General Steel Plate Construction**

**Water Softeners**
- *Hot Process*
- *Cold Process*
- *Zeolite*
- *Household*

**Filters**—*Pressure*

**Purifying Systems** *for Swimming Pools*

GRAVER Corporation Founded 1857

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# Brief Items for Plant Operators

## Catalytic Process Interesting Subject In Refining Research

"A catalyst is a substance which influences the rate of chemical reaction but is itself unchanged in nature or quantity," is the definition given by F. N. Williams, superintendent of Gas Center, La., refinery of the Louisiana Oil Refining Corp. In describing all types of cracking process in the Loreco Diamond, Official publication of the company, Mr. Williams says in part regarding the so-called catalytic processes:

"A catalyst does not lose or gain in weight nor does it change its chemical nature. Catalysis is apparently physical and not chemical in action. This is shown by the chemical combination of nitrogen and hydrogen in the presence of a catalyst under suitable temperature and pressure conditions, without any change in the catalyst.

"Catalytic action was observed by Sir David Humphrey in 1817, who caused gaseous oxygen and hydrogen to combine in the presence of heated platinum foil at far below the usual ignition point. In 1822 it was discovered that "spongy" platinum would cause chemical combination of the two gases at ordinary temperatures. It has been demonstrated that the action of a catalyst is in proportion to the amount of surface it exposes. Thus while a solid piece of platinum will act catalytically, the effect is increased enormously if an equal weight of platinum is used in a finely divided or exceedingly porous condition, such as the 'sponge' obtained by heating to decomposition, crystals of platinum chloride.

"In 1899 Salatier and Senderson found that hydrogen activated by nickel would react at moderate temperatures with a number of substances, particularly organic compounds with multiple bonds, and of the type known as 'unsaturated.' This discovery was the forerunner of the modern industrial processes of hardening fats and oils, the synthesis of ammonia, cracking, hydrogenation and other treatments of petroleum and allied substances.

**McAfee Process**

"The McAfee process listed here under the general heading of catalytic processes is essentially one of cracking in which the function of the aluminum chloride is to act on the products obtained by the thermal decomposition of the heavy petroleum molecules.

Zalinsky in 1918 attempted to relieve the dearth of light oil suitable for motor fuel, existing at that time, by conversion of the enormous stocks of gas oil into motor fuel. His first attempt was to heat the gas oil in tubes in contact with activated charcoal. The results obtained were unsatisfactory because of the high percentage of aromatics and unsaturated hydrocarbons, which could be used in automobiles but not in aviation work. Zalinsky acting upon the suggestion of Gustavson, experimented by heating hexanaphthene to 145 degrees Centigrade in the presence of aluminum chloride and obtained a product 24 per cent of which boiled between 20 degrees and 150 degrees Centigrade and possessed the characteristics of satured gasoline. In this case the aluminum chloride had affected the splitting of the hexanaphthene molecules, simultaneously hydrogenating the lighter portion and dehydrogenating the remainder.

**Bergius Process**

"The Bergius process converts heavy oils, semisolid and solid carbonacious substances into motor fuel and other valuable oils by the use of hydrogen under great pressure at a moderate temperature. The raw material when liquid, is pumped into gas-fired vessels and receives a preliminary heating and is then passed into autoclaves in which it is brought up to the required temperature in the presence of hydrogen at high pressure.

"That crude petroleums contain active metalic catalytic agents is evidenced by the following analysis of ash obtained from Persian petroleum by Doctor Dunstan:

| | |
|---|---|
| Ferrioxide and Alumnia | 26.96 |
| Lime | 2.31 |
| Magnesia | 1.18 |
| Vanadium Pentoxide | 5.03 |
| Nickel Oxide | 2.70 |
| Manganese oxide | 4.39 |
| Silica | 2.29 |
| Phosphoric oxide | 5.53 |
| Sulphur trioxide | 35.29 |

"Much interesting work is being done with the use of catalysts and the field for work of this nature in petroleum is very wide."

## MANUFACTURING GROUP TO VISIT PONCA CITY

A group session of the manufacturing committee of the Western Petroleum Refiners Association will be held Tuesday, July 13, at Ponca City, Okla. Most of the day will be spent in visiting the refineries of the Marland Refining Co. and the Empire Refineries, Inc. The Marland company recently completed a $4,000,000 improvement and enlargement program and the refinery is now one of the most modern in the United States. The Empire company has also recently made extensive improvements to its refinery.

Superintendents of Mid-Continent and other technical men have been invited to attend the meeting.

### PRIMROSE IMPROVEMENTS

The Primrose Refining Co. of Wichita Falls, Tex., has temporarily shut down its refinery in order to carry out an improvement program. This program will include the installation of a pipe still by the Widdell Engineering Co.

## DUBBS CRACKING UNITS FOR FOREIGN REFINERIES

Several units of the Dubbs cracking process have recently been ordered by foreign refineries. The Steaua Romana Co. has ordered two 1,000-bbl. units for installation at its Bucharest, Rumania, refinery. The Burmah Oil Co., Ltd., will install one 1,000-bbl. unit at its Rangoon, India, refinery and the Anglo-Persian Oil Co., Ltd., will install one 1,000-bbl. unit at its Llandarcy, Wales, refinery.

The De Bataafsche Petroleum Maatschappij, Balikpapan, Borneo, D. E. I., has ordered four additional units. This company already has two units in operation with four under construction. All 10 units are expected to be in operation before the end of the year. Another company which has ordered additional units is the Curacaosche Petroleum Industrie Maatschappij, Curacao, D. W. I. This company has two units in operation and has ordered two more.

## ALBERTA REFINERIES WILL DOUBLE PLANT

CHATHAM, Ont., July 3.—Alberta Refineries, Ltd., whose plant at Edmonton South, Alta., started operations March 31 last, has decided to practically double its plant. Construction of the new unit will commence immediately. The new equipment will include special stills to handle the Wainwright crude. A spur will also be built from the Canadian National tracks to the refinery. The entire fuel oil output of the plant is taken by the C. N. R. for use in its oil-burning locomotives. John Mercer is managing director of the company, the majority of the 1,000 shareholders being from the Edmonton district.

Kling-Dell Refineries, Ltd., recently incorporated, is planning to erect at Wainwright a refining plant with an output of 1,000 bbls. a day. It is planned to operate an asphalt and paint plant in connection with the refinery. The construction will be in charge of John D. Wrather of Long Beach, Calif., and it is planned to start work before the end of August.

Invincible Oils, Ltd., will build a cracking plant, employing the Dubbs cracking process, at Wainwright, Alta. The plant will have a capacity of 800 bbls. a day. The company is contracting with operating companies in the Irma-Wainwright Field for their potential supply of crude, contracts calling for delivery of a maximum of 800 bbls. a day after January 1, 1927.

### BUSY ON ROXANA SITE

CHICAGO, July 3.—The Indiana Industrial Land Co. has transferred to the Roxana Petroleum Corp. the title to the land recently acquired for the site of the new refinery at East Chicago. The tract comprises 453 acres and the purchase price is stated to have been $725,000. The site is now a very busy place with large gangs of workmen engaged. The city of Hammond is placing the water main. The county highway commissioners are constructing a highway through the site. Gangs are laying pipelines. The grading contractor has the grading completed for several of the tanks in the storage farm and steel is on the ground for these tanks. The work in the refinery site is not so well advanced but several buildings of light construction are under way. The tank farm must be completed at least in part and a supply of crude accumulated before the refinery can operate extensively and it is planned to push the tank farm and pipeline to completion. The refinery is expected to be in operation shortly after the first of the year.

## AMONG THE TECHNICAL MEN

Kenyon L. Reynolds is vice president and general manager of the Pacific Gasoline Company, which was recently merged by the Standard Oil Company of California. The combination is now the largest natural gasoline producer on the Pacific Coast and second largest in the entire United States with a daily capacity in excess of 350,000 gallons.

Kenyon L. Reynolds

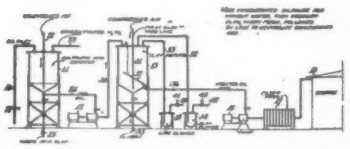
Mr. Reynolds has been associated with the Pacific Gasoline Company covering the entire period of its expansion in natural gasoline manufacture. Following his graduation from the University of California he started to work for the company as a roustabout. His work with the company has covered practically every phase of plant construction and operation. During the period of its greatest expansion he was assistant general manager of the company. He was made vice president and general manager the first of this year.

During his connection with the company it grew so that at the time of the merger 28 plants were in operation with a capacity of 235,500 gallons daily. Under Mr. Reynolds' direction the company has carried on a great deal of research work in the operation of all types of natural gasoline plants. At the present time the company has in operation the absorption oil, compression and charcoal types of plants.

Mr. Reynolds has taken an active part in association work including those outside of California.

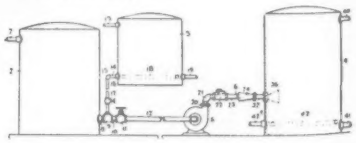
# Recent Patents

1,585,922. Method of Using Concentrated Decolorizing Clays for Refining Lubricating Oils. Alphonsus Jurrissen, Martinez, Calif., assignor to Simplex Refining Co., San Francisco, Calif., a corporation of California. Filed May 31, 1921. Serial No. 473,746. 2 Claims. (Cl. 196—38.)



2. A method of treating oils which comprises: adding sulphuric acid to the oil; adding decolorizing clay; and neutralizing with an alkali, the oil sulphuric acid, and alkali all being substantially free from water.

1,587,111. Treating Mineral Oils. George L. Fogler, Tulsa, Okla. Filed July 17, 1923. Serial No. 652,055. 5 Claims. (Cl. 196—5.)



1. The method of treating emulsified oil that comprises establishing a moving stream of the oil, adding water to the said stream, rotating the mixture about its axis while advancing, and permitting said mixture to separate by gravity.

(Additional Patents on Page 136)

# Oil Securities Reach New 1926 High

## Average Price of Twenty Representative Issues Touches 60.38. Market Active and Firm During the Past Week

By N. O. Fanning

*New York Bureau, The Oil and Gas Journal, Room 543, 30 Church St., New York*

NEW YORK, July 3.—Oil securities were active and firm during the past week. On Monday The Oil and Gas Journal's average price of 20 representative oil securities crossed 60, to register a new high mark for the year at 60.17, later mounting to 60.38.

The statement of the Barnsdall Corp., including Waite Phillips Co., for the first six months of 1926, with June estimated, shows net income of $3,150,0180 after interest, Federal taxes, dry holes, abandonments, depreciation and depletion. This is equal to $2.77 a share (par $25) earned on 1,137,561 shares outstanding and compares with $1,226,095, excluding Waite Phillips earnings, or $1.34 a share on 910,952 shares outstanding in the first half of 1926.

### Mexican Eagle Oil

The Mexican Eagle Oil Co., Ltd., reports for the year ended December 31, 1925, net profit of $3,829,335 (Mexican dollars), after expenses, depreciation and reserves. This is equivalent after dividends on 7 per cent preferred shares to 10 cents a share (par $10) earned on $8,500,000 8 per cent participating preference shares, comparing with net profit of $4,005,273, or 20 cents a share, in 1924.

The income account for the year ended December 31, 1925, compares as follows (Mexican currency):

| | 1925 | 1924 |
|---|---|---|
| Trading profit | $9,551,163 | $..... |
| Depreciation res. | 9,966,926 | ..... |
| Loss | $ 415,763 | *$2,434,644 |
| Other income | 4,446,642 | 1,781,433 |
| Total income | $4,030,879 | $4,216,077 |
| Legal res. acct. | 201,544 | 210,804 |
| Net profit | $3,829,335 | $4,005,273 |
| 1st pfd. divids. | 3,739,620 | 3,836,470 |
| Surplus | $ 89,715 | $ 168,803 |

*Profit.

### Salt Creek Producers

Salt Creek Producers Association declared an extra dividend of $1 and regular quarterly dividend of 62½ cents a share, payable August 1, to stockholders of record July 15. Previously the regular quarterly dividend was 20 cents a share. On May 1, the company paid an extra dividend of 42½ cents a share and regular quarterly dividend of 20 cents. On February 1, the company paid in addition to an extra dividend of 42½ cents and regular quarterly dividend of 20 cents, a special extra dividend of $1.

### Pacific Oil Co.

The Pacific Oil Co. has issued its pamphlet report for the year ended December 31, 1925. The income account shows net income of $16,458,012 after Federal taxes, and reserve for depreciation and depletion, the same as reported in the preliminary statement. The income account for 1925 compares as follows:

| | 1925 | 1924 |
|---|---|---|
| Gross earnings | $32,914,024 | $23,448,932 |
| Oper. expenses | 14,316,218 | 9,821,341 |
| Ordinary taxes | 1,199,909 | 1,161,148 |
| Profit | $17,397,897 | $12,466,443 |
| Other income | 3,435,670 | 3,230,978 |
| Total income | $20,833,567 | $15,697,421 |
| Depr. & depl. resvs. | 3,166,385 | 3,133,850 |
| Fed. tax reserve | 1,209,170 | 669,806 |
| Net profit | $16,458,012 | $11,893,765 |
| Dividends | 10,500,000 | 7,000,000 |
| Surplus | $ 5,958,012 | $ 4,893,765 |

The general balance sheet of the Pacific Oil Co. as of December 31, 1925, compares with 1924 as follows:

| | 1925 | 1924 |
|---|---|---|
| Field equip., etc. | $30,972,736 | $27,477,004 |
| Asso. oil stock | 32,214,654 | 32,209,558 |
| Inv. & adv. to affil. cos. | 18,358,317 | 19,695,190 |
| Cash | 13,580,546 | 10,276,768 |
| Accts. & notes rec. | 4,891,068 | 3,439,072 |
| Markt. secur. | 4,529,424 | 600,059 |
| Mate. & supplies | 303,775 | 226,491 |
| Crude oil on hand, etc. | 1,515,290 | 792,901 |
| Deferred chgs. | 808,356 | 668,738 |
| Total | $107,174,166 | $95,385,781 |
| *Capital stock | $52,500,000 | $52,500,000 |
| Accts. pay. | 2,205,984 | 1,681,127 |
| Divids. pay. | 5,250,000 | 3,500,000 |
| Accrud. taxes | 526,198 | 472,645 |
| Deferred liabl. | 619,244 | 432,830 |
| Exch. oil paymts. | 250,382 | 459,785 |
| Res. for depr., depl., ins. & taxes | 27,134,803 | 23,239,395 |
| P. & L. surplus | 18,687,555 | 13,099,999 |
| Total | $107,174,166 | $95,385,781 |

*Represented by 3,500,000 shares of no par value.

In report to stockholders, Paul Shoup, president, says, "The increase in gross earnings from operations during the year is due to increase in market price of oil and increased production. The average base field price of crude oil was $1.10 a barrel in 1925, against 97 cents in 1924.

"The increase in operating expenses is due largely to increased development work under way in San Joaquin Valley and Los Angeles Basin fields. Such development expenses amounted to $2,924,863 in 1925, against $2,044,700 in 1924.

"During the year, Pacific Oil purchased the property of Atlas Oil Co., comprising 156.79 acres of leased land and five producing wells. Jointly with Associated Oil Co., Pacific Oil acquired properties of the Witherspoon Oil Co., operating in Texas, consisting chiefly of oil leases covering 1,083 acres, 29 oil and gas wells, a 19-mile gathering line, and other well appurtenances and field improvements. Pacific and Associated Oil companies also jointly acquired a number of additional oil leases in California and Texas, the total acreage of which amounted to 83,415 acres. (All properties jointly owned with the Associated Oil Co. were sold to that company on January 1, 1926.)

### Many New Wells

"Wells in operation in San Joaquin Valley and Los Angeles Basin fields on December 31, 1925, numbered 1,001, compared with 927 at the end of 1924. New wells drilling on December 31, 1925, were 16, and 7 wells were being redrilled on the same date. On December 31, 1925, 54 wells were being jointly operated with Associated Oil Co. in California and Texas, and 5 new wells were being drilled on joint leases.

"During the year, $6,922,438 was expended for acquisition of oil lands and leases in construction of field improvements, chiefly new wells. Of this amount, $3,997,575 was charged to investment accounts, and $2,924,863 to income.

"Total production of crude oil in 1925 amounted to 18,598,904 bbls., compared with 15,570,353 bbls. in 1924. Detail is as follows (all figures in barrels):

| Field— | 1925 | 1924 | Inc. |
|---|---|---|---|
| Coalinga | 2,341,929 | 2,024,991 | 316,938 |
| Inglewood (100%) | 817,959 | ..... | 817,959 |
| Kern River | 373,382 | 400,214 | *26,832 |
| McKittrick | 337,615 | 348,758 | *11,143 |
| S. California (50%) | 1,039,574 | 187,494 | 852,080 |
| Sunset | 13,559,059 | 12,573,179 | 985,880 |
| Texas | 129,386 | 35,717 | 93,669 |
| Total | 18,598,904 | 15,570,353 | 3,028,551 |

This production consists chiefly of light oil, the larger part of which was exchanged with other companies for fuel oil, which in turn was sold to Southern Pacific Co. and others. In the exchanges, Pacific Oil earned a premium, which was also received in fuel oil.

### Fuel Sales Increase

"Fuel and light oil sales during 1925 amounted to 21,414,133 barrels, compared with 16,073,255 in 1924, an increase of 5,340,878. In addition, 419,638 barrels of tops were sold at profitable prices. Detail is as follows (all figures in barrels):

| | 1925 | 1924 | Inc. |
|---|---|---|---|
| Fuel oil | 18,123,239 | 16,073,255 | 2,049,984 |
| Lte. crude oil | 3,290,894 | ..... | 3,290,894 |
| Tops | 419,638 | 100,000 | 319,638 |
| Total | 21,833,771 | 16,173,255 | 5,660,516 |

"Net storage of oil as of December 31, 1925, was 4,682,605 barrels. This includes fuel oil and light crude oil due from other companies. Net storage at the end of 1924 was 1,010,589 bbls. The increase is due to increase in production and to relatively heavy purchases of fuel oil made during 1925. Including its interest in oil owned by Associated Supply Co., net oil owned and stored by Pacific Oil Co. on December 31, 1925, totaled 6,361,058 bbls.

"As of December 31, 1925, Pacific Oil owned interests in affiliated enterprises, as shown by the following schedule:

| | Par per Share | Capitalization—Authorized | Capitalization—Outstanding | Owned by Pacific Oil |
|---|---|---|---|---|
| Affiliated Cos. | | | | |
| Associated Oil | $ 25.00 | $60,000,000 | $56,000,000† | $30,739,344 |
| Associated Pipe | 100.00 | 10,500,000 | 10,500,000* | 2,500,000 |
| Associated Supply | 100.00 | 500,000 | 500,000‡ | 250,000 |
| Miley-Keck Oil | 1.00 | 2,000,000 | 1,000,000§ | 433,900 |

†$3,000,316 of this amount is in treasury of Associated Oil Co. Therefore only $52,999,684 of outstanding stock of the latter company take dividends from treasury.
*Associated Oil Co. owns 33⅓ per cent of outstanding capital stock.
‡Associated Oil Co. owns 50 per cent outstanding capital stock.
§Associated Oil Co. owns 56.61 per cent of outstanding capital stock.

### Merger With Standard

After summarizing method of consolidation with the Standard Oil Co. (California) and payment on March 6, 1926, of $3 in cash and two-fifths of a share of Associated Oil Co. stock for each share of Pacific Oil owned, President Shoup says:

"Assets yet on hand are liquid, and are being held pending settlement of liabilities, including final settlement of federal income taxes. It is hoped that all questions necessitating continuance of corporate activities can be disposed of during the current year, and any assets remaining distributed to the stockholders."

(Continued on Page 132)

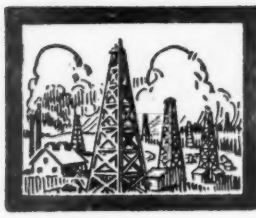
### NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

| Stocks— | Par | Clos. Quot. July 2 | Clos. Quot. June 28 | 1926 High | 1926 Low | 1925 High | 1925 Low | 1924 High | 1924 Low |
|---|---|---|---|---|---|---|---|---|---|
| Amerada Corp. | .. | 30⅞ | 31 | 31 | 21¾ | .. | .. | .. | .. |
| Atlantic Ref., com. | 100 | 119 | 117 | 128⅝ | 97 | 117½ | 95⅛ | 140½ | 78½ |
| Barnsdall "A" | 25 | 26¾ | 26 | 33½ | 23½ | 33½ | 18¾ | 29½ | 14 |
| California Pet., com. | 25 | 34⅛ | 33⅝ | 38⅛ | 30⅝ | 34⅝ | 23⅜ | 39 | 19⅞ |
| Houston Oil | 100 | 61 | 60⅛ | 72 | 50⅛ | 85 | 59 | 82½ | 61 |
| Independent Oil & Gas | .. | 24⅜ | 24¾ | 34 | 20⅛ | 41⅝ | 13½ | 16⅛ | 5⅝ |
| Indian Refining | 10 | 10⅛ | 10 | 13⅝ | 9⅛ | 14⅛ | 5⅛ | 7 | 3⅝ |
| Lago Oil & Trans. | .. | 22⅝ | 32⅝ | 24½ | 19⅛ | .. | .. | .. | .. |
| Louisiana Oil | 10 | 17⅝ | 17½ | 19⅝ | 12 | 23⅜ | 13⅜ | .. | .. |
| Maracaibo | .. | 24⅝ | 25 | 28⅝ | 20⅜ | 35½ | 20⅝ | 37¼ | 25⅜ |
| Marland | .. | 61 | 60½ | 63⅝ | 49¼ | 60¼ | 32⅝ | 42 | 29 |
| Mexican Seaboard | .. | 11⅝ | 11⅜ | 12⅛ | 6 | 22½ | 9 | 25⅜ | 14⅛ |
| Mid-Continent Pet. | .. | 31⅜ | 31⅛ | 41 | 25⅝ | 38 | 25⅜ | 40¼ | 22⅝ |
| National Supply | 50 | 60¼ | *61 | 65⅝ | 55½ | 71 | 54⅜ | 72⅛ | 54 |
| Oil Well Supply | 25 | 30 | *30½ | 36 | 30½ | 38 | 33⅜ | .. | .. |
| Pan. Amer. B. | 50 | 73⅝ | 72⅛ | 76½ | 56⅛ | 83⅞ | 59½ | 65 | 44⅛ |
| Pan Amer., Western B | .. | 39⅝ | 39 | 46 | 34 | 49⅜ | 37½ | .. | .. |
| Phillips Pet. | .. | 48¼ | 47⅞ | 48¼ | 42⅛ | 47⅛ | 36¼ | 52¼ | 28½ |
| Producers & Refiners | 50 | 12⅜ | *14 | 17½ | 11 | 32⅝ | 12⅛ | 43½ | 29⅜ |
| Pure Oil, com. | .. | 27½ | 27⅝ | 31 | 26 | 33⅜ | 25⅛ | 30¼ | 20 |
| Royal Dutch, N. Y., sh. | 13.40 | 53⅛ | 53¼ | 57⅜ | 50 | 57⅝ | 48¼ | 59½ | 40⅜ |
| Shell Transport | 10 | *48 | *48 | 48⅞ | 42 | 49 | 39⅜ | 42 | 33 |
| Shell Union, com. | .. | 27⅛ | 25⅜ | 28½ | 24 | 28⅜ | 21⅝ | 22½ | 15⅜ |
| Simms Pet. | 10 | 19⅛ | 19⅝ | 28⅝ | 20⅜ | 28½ | 17⅜ | 24 | 10⅜ |
| Sinclair Consolidated, com. | .. | 22½ | 22⅛ | 24⅞ | 19⅝ | 24⅞ | 17 | 17½ | 15 |
| Skelly Oil | 25 | 35⅝ | 36⅜ | 36⅛ | 27 | 32½ | 21⅜ | 29 | 17¼ |
| Standard of California | 25 | 62⅜ | 59⅞ | 62¼ | 54 | 67⅛ | 51½ | 68½ | 55½ |
| Standard of New Jersey, com. | 25 | 45⅛ | 45 | 46⅝ | 40¼ | 47½ | 38⅜ | 41½ | 33 |
| Sun Oil Co. | .. | *34 | *33 | 41⅝ | 31½ | 43⅞ | 38⅛ | .. | .. |
| The Texas Company | 25 | 54⅝ | 55 | 55¼ | 49 | 55 | 42⅜ | 45⅝ | 37⅜ |
| Texas Pacific Coal & Oil | 10 | 14⅜ | 14⅜ | 19½ | 12⅛ | 23⅜ | 11 | 15⅛ | 8⅛ |
| Tide Water Oil | 25 | 33 | .. | .. | .. | .. | .. | .. | .. |
| Transcontinental | .. | 4 | 3⅞ | 4⅜ | 3 | 5⅜ | 3½ | 6¼ | 3⅜ |
| Union Oil of California | 25 | 53 | 54⅛ | 56 | 37¼ | 43⅜ | 33⅛ | 39 | 35⅛ |
| Union Tank, com. | 100 | *92 | *92 | 94⅞ | 84½ | ‡134 | 118 | 132⅜ | 94 |
| White Eagle Oil & Refining | .. | 27¼ | 27⅜ | 29⅜ | 26½ | 31⅜ | 25⅝ | 29⅝ | 23⅛ |
| **Standard Oils** | | | | | | | | | |
| Anglo-American Oil | £1 | 17½ | *18½ | 19⅜ | 16½ | 26⅜ | 17½ | 18⅜ | 14⅝ |
| Borne Scrymser | 100 | *230 | *230 | 248 | 226 | 240 | 205 | 164 | 150 |
| Buckeye Pipe Line | 50 | *51 | *51 | 59½ | 52 | 72 | 63½ | 85½ | 51 |
| Chese rough Mfg. Co. | 25 | 74⅞ | *71 | 72⅜ | 63 | 74 | 48¼ | 62½ | 29¼ |
| Continental | 10 | 23 | 22 | 25⅞ | 19¼ | 31⅛ | 21⅞ | .. | .. |
| Crescent Pipe Line | 25 | 14⅜ | *14⅜ | 16 | 14½ | 17½ | 10 | 20 | 11⅜ |
| Cumberland Pipe Line | 100 | 108 | 109 | 137 | 108 | 156 | 128 | 148 | 108 |
| Eureka Pipe Line | 100 | *55 | *55 | 63⅜ | 47⅜ | 96 | 61¼ | 105 | 74 |
| Galena Signal, com. | 100 | *19½ | *19½ | 32½ | 17¼ | 68½ | 23½ | 69⅜ | 62½ |
| Humble Oil & Refining Co. | 25 | 63⅜ | 64½ | 68⅛ | 52 | 99 | 42½ | 42⅜ | 36 |
| Illinois Pipe Line | 100 | 133 | *133 | 144 | 131 | 154½ | 124 | 161 | 123 |
| Imperial Oil, Ltd. | .. | 35⅜ | 35⅜ | 38⅜ | 32½ | 39¼ | 27¼ | 119 | 99 |
| Indiana Pipe Line | 50 | 65½ | 68 | 68 | 58 | 84 | 57⅛ | 100 | 66 |
| International Pet. Co. | 10 | 33⅜ | 33⅞ | 35¼ | 28⅜ | 35⅜ | 22¼ | 24⅜ | 16⅞ |
| National Transit Co. | 12.50 | *15¼ | *15¼ | 20⅜ | 15⅜ | 25½ | 16½ | 25⅞ | 20⅝ |
| New York Transit | 100 | *47 | *47 | 50 | 39 | 79 | 50 | 97 | 54½ |
| Northern Pipe Line | 100 | 73½ | 74½ | 80½ | 70⅝ | 88 | 67½ | 107½ | 72 |
| Ohio Oil Co. | 25 | 60 | 60 | 67⅜ | 58 | 75¼ | 60 | 79½ | 53 |
| Penn.-Mex. Fuel | 25 | *19 | *19 | 23 | 15 | 44 | 19 | 35⅝ | 27 |
| Prairie Oil & Gas | 25 | 53⅜ | 53⅜ | 60¼ | 48 | 65½ | 45⅞ | 269 | 193 |
| Prairie Pipe Line | 100 | 124¼ | *126 | 137 | 122½ | 129¾ | 105 | 111 | 100 |
| Solar Refining Co. | 100 | 190 | 190 | 212 | 184½ | 259 | 200 | 240 | 170 |
| South Penn Oil | 25 | 38 | 36¼ | 50 | 35 | ‡197 | 139 | 176 | 117 |
| Southwest Pa. Line | 100 | 51¼ | *49 | 54½ | 47½ | 84 | 50 | 89 | 68 |
| Southern Pipe Line | 50 | *67 | *67 | 74⅜ | 61½ | 103 | 63 | 100 | 80⅛ |
| Standard of Indiana | 25 | 65⅜ | 64½ | 70½ | 61⅝ | 70⅜ | 59½ | 69⅝ | 54⅛ |
| Standard of Kansas | 25 | 25½ | 35⅞ | 36½ | 25 | 46 | 30¼ | 50½ | 32½ |
| Standard of Kentucky | 25 | 120¼ | 120½ | 134⅝ | 108 | 137 | 114⅜ | 121⅞ | 101 |
| Standard of Nebraska | 100 | 49 | 48⅝ | †51⅛ | †42 | 270 | 231 | 262 | 198 |
| Standard of New York | 25 | 34⅞ | 34⅜ | 47⅛ | 31⅝ | 48⅝ | 40 | 48 | 37⅜ |
| Standard of Ohio, com. | 100 | 302 | *302 | 362 | 292½ | 369 | 638 | 337½ | 277 |
| Swan & Finch, com. | 25 | *16½ | *16½ | 21 | 18 | 27 | 12 | 28 | 20 |
| Vacuum Oil | 25 | 103⅜ | 103⅜ | 109⅜ | 94⅛ | 109½ | 80½ | 83½ | 50½ |
| **Miscellaneous** | | | | | | | | | |
| Gulf Oil Corp. of Pa. | 25 | 86 | 86 | 93⅜ | 82½ | 98⅛ | 63½ | 67⅝ | 56 |
| Tide Water Associated | .. | 24⅞ | 24⅝ | 27 | 21 | .. | .. | .. | .. |

*Bid, no sales. ‡Old stocks. †New stocks.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

| | | | | | | |
|---|---|---|---|---|---|---|
| July 2 | 60.38 | May 28 | 59.81 | Apr. 26 | 57.39 |
| June 28 | 60.17 | May 24 | 58.84 | Apr. 19 | 55.63 |
| June 21 | 59.91 | May 17 | 57.63 | Apr. 12 | 56.07 |
| June 14 | 59.40 | May 10 | 57.08 | Apr. 5 | 56.78 |
| June 7 | 58.92 | May 3 | 57.23 | Mar. 29 | 56.18 |



# REFINERY AND CRUDE PRICES

**Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields**

## GASOLINE AND NAPHTHA

| | July 6 | | June 29 | | June 22 | |
|---|---|---|---|---|---|---|
| **OKLAHOMA (Group 3)—** | | | | | | |
| 50-52 450 end point | .10¾ | .10⅞ | .10⅝ | .10¾ | .11 | |
| 56-58 450 end point | .10½ | .10¾ | .10½ | .10¾ | .11 | .11⅛ |
| 58-60 450 end point | .10⅝ | .10⅞ | .10⅝ | .10¾ | .11⅛ | .11¼ |
| 58-60 437 end point (U. S. Motor) | .11 | | .10¾ | .11 | .11¼ | .11⅜ |
| 60-62 400 end point | .11¾ | .11⅞ | .11¾ | .12 | .11¾ | .12 |
| 64-66 375 end point | .12⅛ | .12¼ | .12 | .12¼ | .12⅛ | .12¼ |
| 68-70 360 end point | .12½ | .12¾ | .12½ | .12¾ | .12⅝ | .12⅞ |
| **KANSAS—** | | | | | | |
| 58-60 437 end point (U. S. Motor) | .11⅜ | .11½ | .11¼ | .11⅜ | .11½ | .12 |
| **NORTH TEXAS—** | | | | | | |
| 48-50 450 end point (Naphtha) | .10½ | .10¾ | .10½ | .10¾ | .10¾ | .11 |
| 50-52 450 end point (Naphtha) | .10⅝ | .10¾ | .10½ | .10¾ | .10⅞ | .11⅛ |
| 56-58 450 end point | .10½ | .10⅝ | .10½ | .10¾ | .11 | .11⅛ |
| 58-60 437 end point (U. S. Motor) | .10⅞ | .11 | .10¾ | .11 | .11⅛ | .11⅜ |
| 60-62 400 end point | .11⅝ | .11¾ | .11⅜ | .12 | .11¾ | .12 |
| 64 66 390 end point | .11⅞ | .12 | .11⅞ | .12 | .12 | .12⅛ |
| 64 66 375 end point | .12 | .12¼ | .12⅛ | .12¼ | .12¼ | .12⅜ |
| 68-70 360 end point | .12½ | .12⅝ | .12½ | .12⅝ | .12½ | .12¾ |
| **NORTH LOUISIANA—** | | | | | | |
| 58-60 437 end point (U. S. Motor) | .11¼ | .11½ | .11¾ | .12 | .12 | .12¼ |
| 64-66 375 end point | .12¼ | .12½ | .13 | .13¼ | .13 | .13¼ |
| **ARKANSAS—** | | | | | | |
| 58-60 437 end point (U. S. Motor) | .11½ | | .12 | .12¼ | .12¼ | .12½ |
| 64-66 375 end point | .12¼ | .12½ | .12⅜ | .13 | .13 | .13⅛ |
| **ROCKY MOUNTAIN STATES—** | | | | | | |
| *58-60 437 end point (U. S. Motor) | .14 | .14⅛ | .13¾ | .14 | .14¼ | .14½ |
| **PENNSYLVANIA—** | | | | | | |
| 52 Naphtha | .12½ | .12¾ | .13¼ | .13½ | .13¼ | .13½ |
| 54 Naphtha | .12¾ | .13 | .13½ | .13¾ | .13½ | .13¾ |
| 56 Naphtha | .13 | .13¼ | .13¾ | .14 | .13¾ | .14 |
| 58 Naphtha | .13¼ | .13½ | .14 | .14¼ | .14 | .14¼ |
| 60 Gasoline | .13¾ | .14 | .14¼ | .14½ | .14¼ | .14½ |
| 62 Gasoline | .14½ | .14¾ | .14½ | .14¾ | .14½ | .14¾ |
| 64 Gasoline | .14¾ | .15 | .14¾ | .15 | .14¾ | .15 |
| 66 Gasoline | .15¾ | .16 | .15¾ | .16 | .15¾ | .16 |
| 68-70 Gasoline | .18¼ | .18½ | .18¼ | .18½ | .18¼ | .18½ |
| **CALIFORNIA—** | | | | | | |
| 54-58 437 end point (U. S. Motor) domestic | .12½ | .13 | .12½ | .13 | .12½ | .13 |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| 50-52 450 end point (Naphtha) | .10½ | .10¾ | .10¾ | | .11 | .11⅛ |
| 56 58 450 end point | .10½ | .10⅝ | .10⅝ | .10¾ | .11 | .11¼ |
| 58-60 437 end point (U. S. Motor) | .10⅞ | .11 | .10¾ | .11 | .11¼ | .11½ |
| 60-62 400 end point | .11¾ | .12 | .11¾ | .12 | .11⅞ | .12 |
| 64-66 375 end point | .12 | .12¼ | .12⅛ | .12¼ | .12¼ | .12⅜ |
| 68-70 360 end point | .12½ | .12¾ | .12¾ | | .12¾ | |

*Colorado points.

## NATURAL GASOLINE

| | July 6 | | June 29 | | June 22 | |
|---|---|---|---|---|---|---|
| **OKLAHOMA (Group 3)—** | | | | | | |
| Grade AA, 80 87.9, 375 e.p., rec. 90% | .08¼ | | .08¾ | .08½ | .08½ | .08¾ |
| Grade A, 72-79.9, 375 e.p., rec. 90% | .08¼ | | .08¾ | .08½ | .08½ | .08¾ |
| Grade BB, 84-92, 375 e.p., rec. 85% | .08 | .08⅛ | .08¼ | .08¼ | .08¼ | .08½ |
| Grade B, 76-83.9, 375 e.p., rec. 85% | .08 | .08⅛ | .08¼ | | .08¼ | .08½ |
| Grade C, 80 90, 375 e.p., rec. 78% | .07¾ | .07⅞ | .08 | | .08 | .08¼ |
| **NORTH TEXAS—** | | | | | | |
| Grade AA, 80 87.9, 375 e.p., rec. 90% | .08¼ | .08¼ | .08½ | | .08½ | .08¾ |
| Grade A, 72-79.9, 375 e.p., rec. 90% | .08¼ | | .08½ | | .08½ | .08¾ |
| Grade BB, 84-92, 375 e.p., rec. 85% | .08 | .08¼ | .08⅛ | .08¼ | .08¼ | .08½ |
| Grade B, 76 83.9, 375 e.p., rec. 85% | .08 | .08⅛ | .08⅛ | .08¼ | .08¼ | .08½ |
| Grade C. 80-90. 375 e.p., rec. 78% | .07¾ | .07⅞ | .08 | | .08 | .08¼ |
| **NORTH LOUISIANA—** | | | | | | |
| Grade A, 72-79.9, 375 e.p., rec. 90% | .08½ | .08⅝ | .09 | .09⅛ | .10 | .10¼ |
| Grade B. 76-83.9, 375 e.p., rec. 85% | .08¼ | .08½ | .08¾ | .09 | .09¾ | .10 |
| Grade C. 80-90. 375 e.p., rec. 78% | .08 | .08¼ | .08½ | .08¾ | .09½ | .09¾ |
| **CALIFORNIA—** | | | | | | |
| 78-85 absorption, 360 390 end point | .15½ | .16 | .15½ | .16 | .16 | .16½ |
| 78 84 compression, 350 end point | .15½ | .16 | .15½ | .16 | .16 | .16½ |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| Grade AA. 80 87 9. 375 e.p., rec 90% | .08¼ | | .08½ | | .09 | .09⅛ |
| Grade A, 72-79.9, 375 e.p., rec. 90% | .08¼ | | .08½ | | .09 | .09⅛ |
| Grade BB. 84-92. 375 e.p., rec. 85% | .08 | .08⅛ | .08¼ | | .08¾ | .09 |
| Grade B. 76-83 9. 375 e.p., rec. 85% | .08 | .08⅛ | .08¼ | | .08¾ | .09 |
| Grade C, 80-90. 375 e.p.. rec. 78% | .07¾ | .07⅞ | .08 | .08⅛ | .08¾ | |

## MOTOR NATURAL GASOLINE (BLENDS)

| | July 6 | | June 29 | | June 22 | |
|---|---|---|---|---|---|---|
| **OKLAHOMA (Group 3)—** | | | | | | |
| 60-62 450 end point | .10¼ | .10¾ | .10¼ | .10¾ | .10¾ | .11 |
| 64-66 437 end point | .10½ | .10¾ | .10½ | .10¾ | .11 | .11¼ |
| **NORTH TEXAS—** | | | | | | |
| 64 66 437 end point | .10½ | .10⅝ | .10½ | | .11 | .11⅛ |
| **PENNSYLVANIA—** | | | | | | |
| *60 62 | .13½ | .13¾ | .13½ | .13¾ | .13½ | .13¾ |
| *64-66 | .13¾ | .14 | .13¾ | .14 | .13¾ | .14 |
| *66-68 | .13¾ | .14 | .13¾ | .14 | .13¾ | .14 |
| *68-70 | .14 | .14¼ | .14 | .14¼ | .14 | .14¼ |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| 60-62 450 end point | .10½ | .10¾ | .10¾ | .11 | .11 | |
| 64-66 437 end point | .10¾ | .11 | .11 | .11¼ | .11 | .11¼ |

*At Sistersville, W. Va.

## BURNING OIL

| | July 6 | | June 29 | | June 22 | |
|---|---|---|---|---|---|---|
| **KANSAS—** | | | | | | |
| 41-43 water white Kerosene | .06¼ | .06½ | .07 | .07¼ | .07¾ | .08 |
| **OKLAHOMA (Group 3)—** | | | | | | |
| 41-43 water white Kerosene | .05¼ | .05½ | .05¾ | .06 | .06¾ | .07 |
| 42-44 water white Kerosene | .06 | .06¼ | .06¼ | .06½ | .07¼ | |
| **NORTH LOUISIANA—** | | | | | | |
| 41 43 prime white Kerosene | .06¼ | .06½ | .07 | .07¼ | .07¾ | .08 |
| **ROCKY MOUNTAIN STATES—** | | | | | | |
| *40 41 water white Kerosene | .08¼ | .08½ | .09 | .09¼ | .09¾ | .10 |
| **NORTH TEXAS—** | | | | | | |
| 41-43 water white Kerosene | .05¼ | .05⅜ | .05¾ | .06 | .06½ | .06¾ |
| **ARKANSAS—** | | | | | | |
| 41-43 water white Kerosene | .06¼ | .06½ | .07¼ | .07½ | .08 | .08¼ |
| **PENNSYLVANIA—** | | | | | | |
| 43 Kerosene prime white | .08¾ | .09 | .09 | .09¼ | .10½ | .10¾ |
| 45 Kerosene water white | .09¼ | .09½ | .10 | .10¼ | .10¾ | .11 |
| 46 Kerosene water white | .10¼ | .10½ | .10¾ | .11 | .11½ | .11¾ |
| 47 Kerosene water white | .10¾ | .11 | .11¼ | .11½ | .12½ | .12¾ |
| 34 Neutral | .07¼ | .07½ | .07¼ | .07½ | .07¼ | .07¾ |
| 34 Sundebloom Neutral | .08½ | .08¾ | .08½ | .08¾ | .08½ | .08¾ |
| 36 Miners' Neutral | .06¾ | .07 | .06¾ | .07 | .06¾ | .07 |
| 300 Mineral Seal | .07¼ | .07½ | .07¼ | .07½ | .08¼ | .08½ |
| **CALIFORNIA—** | | | | | | |
| 38 40 water white (high burning test) | .07¼ | .08½ | .07½ | .08½ | .07½ | .08½ |
| Engine distillate, 43-45 445 end point | .10¼ | .10½ | .10¼ | .10½ | .10¼ | .10½ |
| Engine distillate, 42-44 450 end point | .10 | .10¼ | .10 | .10¼ | .10 | .10¼ |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| 41-43 water white Kerosene | .05¼ | .05½ | .06⅛ | .06¼ | .06¾ | .07 |
| 42-44 water white Kerosene | .06 | .06¼ | .06½ | .06⅝ | .07¼ | .07⅜ |

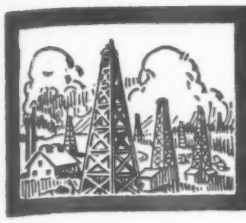
*Colorado points.

## FUEL OILS

| | July 6 | | June 29 | | June 22 | |
|---|---|---|---|---|---|---|
| **KANSAS—** | | | | | | |
| 24-26 Fuel Oil | 1.35 | 1.40 | 1.35 | 1.40 | 1.35 | 1.40 |
| 32-36 Gas Oil | .04½ | .04¾ | .04¼ | .04⅜ | .04¼ | .04⅜ |
| 38-40 Distillate | .04⅜ | .04¾ | .04½ | .04⅝ | .04½ | .04⅝ |
| **OKLAHOMA (Group 3)—** | | | | | | |
| Below 22 Fuel Oil (sellers' cars) | 1.15 | 1.17½ | 1.15 | 1.20 | 1.17½ | 1.20 |
| 22-26 Fuel Oil (sellers' cars) | 1 17½ | 1.20 | 1.17½ | 1.20 | 1.20 | |
| 24-26 Fuel Oil (sellers' cars) | 1.20 | | 1.20 | | 1.20 | 1.22½ |
| 26-30 Fuel Oil (sellers' cars) | 1.22½ | 1.25 | 1.25 | 1.27½ | 1.25 | 1.30 |
| 28-30 Fuel Oil (sellers' cars) | 1.25 | 1.27½ | 1.30 | 1.32½ | 1.30 | 1.35 |
| 32-36 Gas Oil (cracking stock) | .03⅞ | .04 | .04 | | .04 | |
| 36 38 Distillate | .04⅛ | .04⅜ | .04⅛ | .04⅜ | .04⅛ | .04⅜ |
| 38 40 Straw Distillate | .04⅜ | .04½ | .04⅜ | .04⅝ | .04⅜ | .04⅝ |
| **NORTH TEXAS—** | | | | | | |
| 24-26 Fuel Oil (sellers' cars) | 1.20 | 1.22½ | 1.22½ | 1.25 | 1 25 | |
| 32-36 Gas Oil (straw) | .03¾ | .04 | .03⅞ | .04 | .04 | .04⅛ |
| 38-40 Straw Distillate | .04¼ | .04½ | .04¼ | | .04¼ | |
| **NORTH LOUISIANA—** | | | | | | |
| 18-20 Fuel Oil | 1.35 | 1.40 | 1.35 | 1.40 | 1.35 | 1 40 |
| 32-36 Gas Oil | .04¼ | .04⅜ | .04 | .04¼ | .04¼ | .04½ |
| 36-38 Distillate | .04⅜ | .04½ | .04¼ | .04½ | .04½ | .04¾ |
| **ARKANSAS—** | | | | | | |
| 38-40 Distillate | .04½ | .04¾ | .04½ | .04¾ | .04½ | .04¾ |
| 32-36 Gas Oil | .04¼ | .04½ | .04¼ | .04½ | .04¼ | .04½ |
| 16 20 Refinery Fuel Oil | 1.20 | 1.25 | 1.20 | 1.25 | 1.20 | 1.25 |
| **GULF COAST (South Texas)—** | | | | | | |
| Gas Oil | .05½ | .05¾ | .05½ | .05¾ | 05½ | .05¾ |
| Fuel Oil | 1.75 | 1.85 | 1.75 | 1.85 | 1.75 | 1.85 |
| **PENNSYLVANIA—** | | | | | | |
| 30 34 Fuel Oil | .05½ | .05¾ | .05½ | .05¾ | .05¾ | .06 |
| 36-40 Fuel Oil | .06¼ | .06½ | .06¼ | .06½ | .06½ | .06⅝ |
| **CALIFORNIA—** | | | | | | |
| 33-35 Distillate | .04¾ | .05 | .04¾ | .05 | .04¾ | .05 |
| 27-35 Distillate | .04 | .04½ | .04 | .04½ | .01 | .04½ |
| 15-20 Fuel Oil (at tide water) | 1.00 | 1.04 | 1.00 | 1.04 | 1 00 | 1 04 |
| 27 plus Diesel | 1.15 | 1.19 | 1.15 | 1.19 | 1.15 | 1.19 |
| **CHICAGO DISTRICT (Based on Group 3)—** | | | | | | |
| 24-26 Fuel Oil (sellers' cars) Group 3 | 1.20 | 1.25 | 1.20 | 1.25 | 1.25 | 1.30 |
| 22-26 Fuel Oil (sellers' cars) | 1.20 | 1.22½ | 1 20 | 1.22½ | 1.20 | 1.25 |
| 18 22 (El Dorado) | 1.17½ | 1.20 | 1.20 | | 1.17½ | 1.20 |
| 18-20 (Smackover) | 1.20 | | 1.20 | | 1.20 | |
| 32 36 Gas Oil | .04 | .04½ | .04 | .04½ | .04 | .04½ |
| 36 38 Distillate | .04½ | .04⅝ | .04¼ | .04⅜ | .04¼ | .04⅜ |
| 38-40 Straw Distillate | .04¼ | .04⅜ | .04½ | .04⅝ | .04½ | .04⅝ |

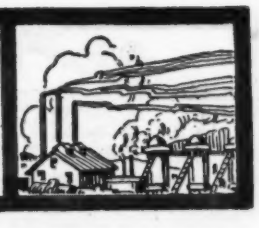
## LUBRICATING OILS AND WAX

| | July 6 | | June 29 | | June 22 | |
|---|---|---|---|---|---|---|
| **OKLAHOMA (Group 3)—** | | | | | | |
| 70-80 vis., 2½ color, 20-25 cold test | .06 | .07 | .06 | .07 | .06 | .07 |
| 100 vis., 3 color, 20-25 cold test | .06½ | .07 | .06½ | .07 | .06½ | .07 |
| 100 vis., 2 color, 20-25 cold test | .07 | .07½ | .07 | .07½ | .07 | .07½ |
| 150 vis., 4 color, 20-25 cold test | .09¼ | .09¾ | .09¼ | .09¾ | .09¼ | .09¾ |
| 150 vis., 3 color, 20-25 cold test | .09½ | .10 | .09½ | .10 | .09½ | .10 |
| 180 vis., 4 color, 23-28 cold test | .10 | .10½ | .10 | .10½ | .10 | .10½ |
| 180 vis., 3 color, 23 28 cold test | .10¼ | .10½ | .10¼ | .10½ | .10¼ | .10½ |
| 200 vis., 4 color, 23 28 cold test | .11 | .11½ | .11 | .11½ | .11 | .11½ |
| 200 vis., 3 color, 23-28 cold test | .11¼ | .11½ | .11¼ | .11½ | .11¼ | .11½ |
| 220 vis., 4 color, 25-30 cold test | .14 | .14½ | .14 | .14½ | .14 | .14½ |
| 220 vis., 3 color, 25-30 cold test | .14½ | .15 | .14½ | .15 | .14½ | .15 |
| 240 vis., 4 color, 25-30 cold test | .14 | .14½ | .14 | .14½ | .14 | .14½ |
| 240 vis., 3 color, 25-30 cold test | .14½ | .15 | .14½ | .15 | .14½ | .15 |
| 280 vis., 4 color, 25-30 cold test | .15½ | .16 | .15½ | .16 | .15½ | .16 |
| 280 vis., 3 color, 25 30 cold test | .16½ | .17 | .16½ | .17 | .16½ | .17 |
| 180 vis., 5 color, 23-28 cold test | .09¾ | .10¼ | .09¾ | .10¼ | .09¾ | .10¼ |
| 200 vis., 5 color, 23 28 cold test | .10¾ | .11¼ | .10¾ | .11¼ | .10¾ | 11¼ |
| 220 vis., 5 color, 25 30 cold test | .14 | .14½ | .14 | .14½ | .14 | .14½ |
| 240 vis., 5 color, 25-30 cold test | .13 | .14 | .14 | | .13 | .14 |
| 280 vis., 5 color, 25-30 cold test | .15½ | .16 | .15½ | .16 | .15½ | .16 |
| Cylinder Stocks: | | | | | | |
| 180-200 vis., S. R. green, 40-45 cold test | .08½ | .11 | .08½ | .11 | .08½ | .11 |
| 190-200 vis., S. R. green, 40-45 cold test | .08 | .08½ | .08 | .08½ | .08 | .08½ |
| 170 190 dark green, 40-45 cold test | .06 | .06½ | .06 | .06½ | .06 | .06½ |
| 190 200 vis. @ 210 "D" Bright Stock | .33 | .35 | .33 | .35 | .33 | .35 |
| 200-210 vis. @ 210 "E" Bright Stock | .30 | .31 | .30 | .31 | .30 | .31 |
| 150 vis. @ 210 "E" Bright Stock | .27 | .28 | .27 | .28 | .27 | .28 |
| 150 vis. @ 210 "D" Bright Stock | .28 | .31 | .28 | .31 | .28 | .31 |
| Waxes: | | | | | | |
| 122-124 White Crude Scale Wax | .04¾ | .04⅞ | .04¾ | .04⅞ | .04¾ | .04⅞ |
| **PENNSYLVANIA—** | | | | | | |
| 150, 3 color | .24½ | | .24½ | | .24½ | |
| 180, 3 color | .28 | | .28 | | .28 | |
| 200, 3 color | .29½ | | .29½ | | .29½ | |
| 220, 3 color | .32 | | .32 | | .32 | |
| 600, steam refined | .14¼ | | .14½ | | .14½ | |
| 635, steam refined | .18 | | .18 | | .18 | |
| 650, steam refined | .19½ | | .20 | | .20 | |
| 600, Pennsylvania flash | .25½ | | .26 | | .26 | |
| 630 Pennsylvania flash | .32½ | | .32½ | | .32½ | |
| *550, E filtered | .19 | | .19 | | .19 | |



# REFINERY AND CRUDE PRICES

**Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields**



| | | | | | | |
|---|---|---|---|---|---|---|
| 600, E filtered | .19½ | | .19½ | | .19¾ | |
| *600, E filtered | .20½ | | .20½ | | .21 | |
| 600, D filtered | .26½ | | .26½ | | .26½ | |
| 550, E filtered | .18 | | .18 | | .18 | |
| 550, D filtered | .22 | | .22 | | .22 | |
| Pennsylvania Bright Stock | .41 | | .41 | | .41 | |
| 122-124 White Crude Scale Wax | .05¼ | .05⅜ | .05⅛ | .05¼ | .05⅛ | .05¼ |
| †124-126 White Crude Scale Wax | .05⅜ | .05½ | .05¼ | .05⅜ | .05¼ | .05⅜ |

*At Warren, Pa. †At New York City.

| GULF COAST (South Texas)— | | | | | | |
|---|---|---|---|---|---|---|
| Zero Black | .06 | .07 | .06 | .07 | .06 | .07 |
| No. 2 color, 100 vis., pale oil | .07½ | .08 | .07½ | .08 | .07½ | .08 |
| No. 3 color, 200 vis., pale oil | .11½ | .12 | .11½ | .12 | .11½ | .12 |
| No. 3½ color, 300 vis., pale oil | .12½ | .13½ | .12½ | .13½ | .12½ | .13½ |
| No. 3¾ color, 500 vis., pale oil | .14½ | .15½ | .14½ | .15½ | .14½ | .15½ |
| No. 4 color, 750 vis., pale oil | .18½ | .19½ | .18½ | .19½ | .18½ | .19½ |
| No. 2 plus color, 200 vis., pale filtered | .21½ | | .21½ | | .21½ | |
| No. 2 color, 300 vis., pale filtered | .24½ | | .24½ | | .24½ | |
| No. 2½ color, 500 vis., pale filtered | .27½ | | .27½ | | .27½ | |
| No. 2½ color, 750 vis., pale filtered | .35½ | | .35½ | | .35½ | |
| No. 5 to 6 color, 200 vis., red oil | .09½ | .10 | .09½ | .10 | .09½ | .10 |
| No. 5 to 6 color, 300 vis., red oil | .11½ | .13 | .11½ | .13 | .11½ | .13 |
| No. 5 to 6 color, 500 vis., red oil | .12½ | .13½ | .12½ | .13½ | .12½ | .13½ |
| No. 5 to 6 color, 750 vis., red oil | .16¼ | .17½ | .16¼ | .17½ | .16¼ | .17½ |
| CALIFORNIA— | | | | | | |
| 130 pale, 2½-3 color | .10 | .11½ | .10 | .11½ | .10 | .11½ |
| 200 vis., 2½-3 color | .13½ | .14½ | .13½ | .14½ | .13½ | .14½ |
| 300 vis., 3 -3½ color | .15 | .16 | .15 | .16 | .15 | .16 |
| 350 vis., 3½-4 color | .16½ | .17½ | .16½ | .17½ | .16½ | .17½ |
| 400 vis., 3½-4 color | .18 | .19 | .18 | .19 | .18 | .19 |
| Red Neutrals: | | | | | | |
| 200 vis., 4½ 5 color | .12 | .13 | .12 | .13 | .12 | .13 |
| 300 vis., 5 -6 color | .13 | .14 | .13 | .14 | .13 | .14 |
| 400 vis., 5 -6 color | .15 | .16 | .15 | .16 | .15 | .16 |
| 500 vis., 4½-5 color | .18 | .19 | .18 | .19 | .18 | .19 |
| 500 vis., 6 -6½ color | .16 | .17 | .16 | .17 | .16 | .17 |
| 600 vis., 6½ plus color | .17 | .18 | .17 | .18 | .17 | .18 |

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

## NEW YORK (BAYONNE) REFINERY PRICES

| Gasoline: | July 6 | June 29 | June 22 |
|---|---|---|---|
| U. S. Motor, 58-60 437 | .15 | .15 | .15 |
| Export, 64-66 375 | .17 | .17 | .17 |
| Kerosene, prime white, 41-43 | .09⅛ | .09⅛ | .09⅛ |
| *Bunker Oil, 14-16, per bbl. | 1.75 | 1.75 | 1.75 |
| *Diesel Oil, 28-30, per bbl. | 2.50 | 2.50 | 2.50 |
| Gas Oil, 28 plus | .06¾ | .06¾ | .06¾ |
| Cylinder Oil, light filtered, 600 s.r. | .29 | .29 | .29 |
| Bright Stock, No. 5, 150 vis., at 212 F. | .41 | .41 | .41 |
| White Neutral, No. 1, 170 vis., 1 color | .37 | .37 | .37 |
| Pale Oil, "25," 170 vis., 3½ color | .13 | .13 | .13 |
| Pale Oil, "28," 100 vis., 2 color | .08 | .08 | .08 |
| Red Oil: | | | |
| No. 3, 160 vis., 7 color | .11 | .11 | .11 |
| No. 2, 212 vis., 5½ color | .12 | .12 | .12 |
| No. 1, 265 vis., 5½ color | .13½ | .13½ | .13½ |
| Polar, 295 vis., 6 color | .14 | .14 | .14 |
| Paraffin Wax, refined: | | | |
| 120 122 a.m.p., per lb. | .06 | .06 | .06 |
| 125-127 a.m.p., per lb. | .06⅛ | .06⅛ | .06⅛ |
| 130-132 a.m.p., per lb. | .06½ | .06½ | .06½ |
| 135-137 a.m.p., per lb. | .07 | .07 | .07 |
| Petrolatum, in bbls., per lb.: | | | |
| Amber | .03⅛ | .03⅛ | .03⅛ |
| Light amber | .03½ | .03½ | .03½ |
| Cream | .05½ | .05½ | .05½ |
| Lily white | .07¾ | .07¾ | .07¾ |
| Snow white | .08¾ | .08¾ | .08¾ |

*Lighterage 5.5c a barrel extra.

## NEW YORK CASE EXPORT PRICES

| | July 6 | June 29 | June 22 |
|---|---|---|---|
| Gasoline, U. S. Motor, 58-60 | 29.40 | .29.40 | .29.40 |
| Kerosene: | | | |
| Standard white | 19.40 | .19.40 | .19.40 |
| Water white | .20.40 | .20.40 | .20.40 |

## LOS ANGELES EXPORT PRICES

| | July 6 | | June 29 | | June 22 | |
|---|---|---|---|---|---|---|
| Kerosene water white | .05½ | .06½ | .05½ | .06½ | .05½ | .06½ |
| U. S. Motor Gasoline, 54-56 437 e.p. | .10¾ | .11 | .10¾ | .11 | .10¾ | .11 |

## CRUDE OIL PRICES

### OKLAHOMA, KANSAS AND NORTH TEXAS

***Prairie Oil & Gas Co.**
(Oklahoma, Kansas and North and East Central Texas)
(Effective May 15)

| | |
|---|---|
| 28° to 28.9° | $1.65 |
| 29° to 29.9° | 1.73 |
| 30° to 30.9° | 1.81 |
| 31° to 31.9° | 1.89 |
| 32° to 32.9° | 1.97 |
| 33° to 33.9° | 2.05 |
| 34° to 34.9° | 2.13 |
| 35° to 35.9° | 2.21 |
| 36° to 36.9° | 2.29 |
| 37° to 37.9° | 2.37 |
| 38° to 38.9° | 2.45 |
| 39° to 39.9° | 2.53 |
| 40° to 40.9° | 2.61 |
| 41° to 41.9° | 2.69 |
| 42° to 42.9° | 2.77 |
| 43° to 43.9° | 2.85 |
| 44° to 44.9° | 2.93 |
| 45° to 45.9° | 3.01 |
| 46° to 46.9° | 3.09 |
| 47° to 47.9° | 3.17 |
| 48° to 48.9° | 3.25 |
| 49° to 49.9° | 3.33 |
| 50° to 50.9° | 3.41 |
| 51° to 51.9° | 3.49 |
| 52° and above | 3.57 |

*Other major purchasers except as noted below.

**Champlin Refining Co.**
(Garber and Tonkawa)
(Effective May 15)
Schedule based on Prairie Oil & Gas Co. paying 10 cents additional for each grade of crude above 38° gravity.

**Humble Oil & Refining Co.**
(Effective May 15)
(North and East Central Texas, Ranger, Mexia, Powell, Richland, Wortham, Currie, Moran, Big Lake, Nacona and Lytton Springs)
Same prices as Prairie Oil & Gas Co. schedule. Postings below 28 gravity, 8 cents less for each degree, effective June 21.

**Magnolia Petroleum Co.**
(Effective May 15)
(Oklahoma, Kansas and North and East Central Texas, except Corsicana heavy, and Lytton Springs of South Central Texas)

| | |
|---|---|
| Below 28° | $1.30 |
| Other grades same as Prairie Oil & Gas Co. | |
| Iatan | $1.15 |
| Corsicana heavy | 1.25 |
| Panola County: | |
| 30° to 34.9° | $1.95 |
| 35° to 37.9° | 2.10 |
| 38° and above | 2.25 |

**Texhoma Oil & Refining Co.**
(Wichita Falls, Tex., District)
(Effective May 16)

| | |
|---|---|
| Below 32° | 1.94 |
| 32° to 32.9° | 2.02 |
| 33° to 33.9° | 2.10 |
| 34° to 34.9° | 2.18 |
| 35° to 35.9° | 2.26 |
| 36° to 36.9° | 2.34 |
| 37° to 37.9° | 2.42 |
| 38 to 38.9° | 2.50 |
| 39° to 39.9° | 2.60 |
| 40° to 40.9° | 2.66 |
| 41° to 41.9° | 2.74 |
| 42° to 42.9° | 2.82 |
| 43° to 43.9° | 2.90 |
| 44° and above | 2.98 |

### TEXAS PANHANDLE

**Kay County Gas Co.**
**Magnolia Petroleum Co.**
(Effective May 15)

| | |
|---|---|
| 28° to 28.9° | $1.35 |
| 29° to 29.9° | 1.40 |
| 30° to 30.9° | 1.45 |
| 31° to 31.9° | 1.50 |
| 32° to 32°9 | 1.55 |
| 33° to 33.9° | 1.60 |
| 34° to 34.9° | 1.65 |
| 35° to 35.9° | 1.70 |
| 36° to 36.9° | 1.75 |
| 37° to 37.9° | 1.80 |
| 38° to 38.9° | 1.85 |
| 39° and above | 1.90 |

**Humble Oil & Ref. Co.**
(Effective June 21)

| | |
|---|---|
| 39° to 39.9° | 1.90 |
| 40° to 40.9° | 1.95 |
| 41° to 41.9° | 2.00 |
| 42° to 42.9° | 2.05 |
| 43° to 43.9° | 2.10 |
| 44° and above | 2.15 |

Grades below 39 gravity same as posted by Magnolia Petroleum Co. and Kay County Gas Co.

### GULF COAST

***Humble Oil & Refining Co.**
(Effective May 15)

| | |
|---|---|
| Grade A | $1.60 |
| Grade B— | |
| Below 25° | 1.50 |
| 25° to 25.9° | 1.55 |
| 26° to 26.9° | 1.60 |
| 27° to 27.9° | 1.65 |
| 28° to 28.9° | 1.70 |
| 29° to 29.9° | 1.75 |
| 30° to 30.9° | 1.80 |
| 31° to 31.9° | 1.85 |
| 32° to 32.9° | 1.90 |
| 33° to 33.9° | 1.95 |
| 34° to 34.9° | 2.00 |
| 35° and above | 2.05 |
| Boling (December 26) | 1.50 |
| High Island (Sun Oil Co.) (Apr. 30) | 1.40 |

**The Texas Company**
(Effective June 8)

| | |
|---|---|
| Grade A | $1.60 |
| Grade B | 1.50 |
| †Light crude— | |
| 35° to 35.9° | 2.05 |
| 36° to 36.9° | 2.10 |
| 37° to 37.9° | 2.15 |
| 38° to 38.9° | 2.20 |
| 39° to 39.9° | 2.25 |
| 40° and above | 2.30 |

†The Texas Company's postings on light crude under 35° gravity are same as Humble Oil & Refining Co.'s grades and prices for Grade B crude.

*The Sun Pipe Line Co.'s postings same as Humble's.

### SOUTH CENTRAL AND SOUTHWEST TEXAS

(Effective May 18)

***Magnolia Petroleum Co.**

| | |
|---|---|
| Luling (contract) (Eff. May 18) | $1.30 |
| Mirando (Webb, Jim Hogg and Zapata Counties) (May 15) | 1.25 |
| Rockdale-Minerva (Milam County) | 1.25 |
| Thrall | 1.00 |
| Calliham (Live Oak and McMullen Counties) (May 15) | 1.75 |
| ‡Lockhart (Lytton Springs) | |
| Somerset (Grayburg Pipe Line Co.): | |
| (Effective May 17) | |
| 28° to 28.9° | 1.25 |
| 29° to 29.9° | 1.35 |
| 30° to 30.9° | 1.71 |
| 31° to 31.9° | 1.89 |
| 32° to 32.9° | 1.97 |
| 33° to 33.9° | 2 05 |
| 34° to 34.9° | 2.13 |
| 35° to 35 9° | 2.20 |
| 36° to 36.9° | 2.29 |
| 37° to 37.9° | 2.37 |
| 38° and above | 2.45 |

*Texpata Pipe Line Co. and Humble Pipe Line Co. also post in Mirando Field paying same prices as Magnolia Petroleum Co.

‡Lockhart prices same as for North and East Central Texas. Lockhart posted by Magnolia Petroleum Co. and Humble Oil & Refining Co.

### ARKANSAS AND NORTH LOUISIANA

**Standard Oil Co. of Louisiana**
(Effective May 18)

| | |
|---|---|
| Caddo below 32° | 2.10 |
| 32° to 34.9° | 2.25 |
| 35° to 37.9° | 2.35 |
| 38° and above | 2.45 |
| Homer below 31° | 1.85 |
| 31° to 32.9° | 2.00 |
| 33° to 34.9° | 2.10 |
| 35° and above | 2.20 |
| Haynesville below 33° | 2.00 |
| 33° and above | 2.10 |
| El Dorado below 33° | 2.00 |
| 33° to 34.9° | 2.10 |
| 35° to 36.9° | 2.20 |
| 37° and above | 2.30 |
| Bull Bayou, 32° to 34.9° | 1.95 |
| 35° to 37.9° | 2.10 |
| 38° and above | 2.25 |
| Cotton Valley | 1.20 |
| DeSoto | 2.30 |
| Crichton | 2.10 |
| Bellevue | 1.50 |
| Smackover, below 24° | 1.10 |
| 24° to 24.9° | 1.35 |
| 25° to 25.9° | 1.40 |
| 26° to 26.9° | 1.45 |
| 27° and above | 1.50 |
| *Stephens, Ark., below 26° | 1.45 |
| 26° and above | 1.65 |
| †Calion (East El Dorado) (Feb. 1) | .95 |
| §Urania (May 26) | 1.15 |

**The Texas Company**

| | |
|---|---|
| Caddo: | |
| Below 26° | $1.40 |
| 26° to 28.9° | 1.55 |
| 29° to 31.9° | 1.70 |
| 32° to 34.9° | 2.25 |

Other grades same as Standard Oil Co. of Indiana.

Other companies posting in these fields are: Gulf Pipe Line Co.; Atlantic Oil Producing Co. in Homer, Haynesville, El Dorado and Smackover; The Texas Company in Caddo, Bull Bayou, DeSoto, Crichton and Smackover.

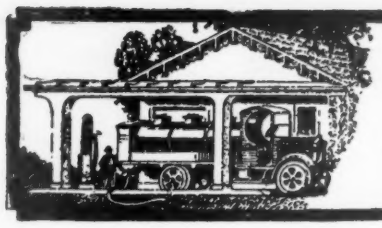
*Posted by the Atlantic Oil Producing Co. †Posted by the Gulf Pipe Line Co. ‡Posted by the Louisiana Oil Refining Corp.

### ROCKY MOUNTAIN STATES

**Ohio Oil Co.—Midwest Refining Co.**
(Effective May 17)

| | |
|---|---|
| Rock Creek, (Wyo.) | $2.25 |
| Salt Creek— | |
| 29° to 29.9° | 1.73 |
| 30° to 30.9° | 1.81 |
| 31° to 31.9° | 1.89 |
| 32° to 32.9° | 1.97 |
| 33° to 33.9° | 2.05 |
| 34° to 34.9° | 2.13 |
| 35° to 35.9° | 2.21 |
| 36° to 36.9° | 2.29 |
| 37° and above | 2.37 |
| Big Muddy | 2.25 |
| Mule Creek | 1.75 |
| Grass Creek, light | 2.40 |

(Continued on Page 135)



# TANK WAGON MARKETS

Tankwagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns, July 6.

## ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

### STANDARD OIL CO. (INDIANA)
**Main Service Station Price**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incids tax of | Kero. Tank wagon |
|---|---|---|---|---|
| Chicago Dist.— | | | | |
| †Less than 100 gals. | 19.0 | 21.0 | ... | 13.5 |

Tank wagon prices on April 19, 1922; g. up 1½c; May 8, up 1c; June 27, g. and k. up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 20, g. up 2c; Jan. 12, 1924, g. up 2c; k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18, g. down 1c; July 30, g. and k. down 1c; Sept. 12, g. down 2c; Jan. 23, 1925, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Feb. 12, g. up 2c, k. up 1c; April 19, g. down 1c; July 14, g. up 1c; Aug. 25, g. down 2c, k. down 1c; Sept. 1, g. down 1c; Feb. 4, 1926, g. up 1c, k. up 1c; April 16, 1926, k. up 1c; April 24, 1926, k. up ½c; April 29, 1926, g. up 1c, k. up ½c; May 6, 1926, k. up ½c May 17, g. and k. up 1c July 1, k. down 1c; July 3, k. down 1c.

| | | | | |
|---|---|---|---|---|
| Decatur, Ill. | 19.2 | 21.2 | ... | 14 0 |
| E. St. Louis | 18 1 | 20 35 | ... | 13 1 |
| Joliet | 19 4 | 21.4 | ... | 14 2 |
| Peoria | 19 2 | 21 2 | ... | 14.0 |
| Quincy | 19 2 | 21.2 | ... | 13 8 |
| Davenport, Ia. | 21 5 | 23 5 | 2 0 | 14 4 |
| Des Moines | 21 5 | 23.5 | 2 0 | 14 4 |
| Keokuk | 21.5 | 23 5 | 2 0 | 14 4 |
| Sioux City | 21 0 | 23 0 | 2 0 | 14 0 |
| Duluth, Minn. | 22 5 | 24.5 | 2 0 | 15 1 |
| Minneapolis | 22 2 | 24 2 | 2.0 | 15 1 |
| La Cross, Wis. | 22.2 | 24 2 | 2 0 | 14 9 |
| Milwaukee | 21 1 | 23.1 | 2 0 | 14 8 |
| Madison | 21 3 | 23 3 | 2 0 | 14 0 |
| Detroit, Mich. | 21 8 | 23 8 | 2.0 | 14 7 |
| Grand Rapids | 21 7 | 23 7 | 2 0 | 14 6 |
| Saginaw | 21.9 | 23 9 | 2 0 | 15.8 |
| Evansville, Ind. | 22 0 | 24 0 | 3 0 | 14 0 |
| Ft. Wayne | 22.4 | 24 4 | 3 0 | 14 4 |
| Indianapolis | 22 2 | 24 2 | 3.0 | 14.2 |
| South Bend | 22 4 | 24 4 | 3 0 | 14 4 |
| Fargo, N. D. | 22 9 | 24 9 | 1 0 | 17 1 |
| Huron, S. D. | 23.5 | 25 5 | 3.0 | 15.6 |
| Sioux Falls | 22 0 | 24 0 | 3 0 | 15 1 |
| *K. C., Mo. | 21 9 | 23 9 | 3.0 | 12 8 |
| *Springfield | 21 8 | 23 8 | 3 0 | 12.7 |
| *St. Louis | 20.6 | 22.9 | 2 5 | 13 5 |
| *St. Joseph | 21 0 | 23 0 | 2 5 | 13 4 |
| ‡Wichita, Kan. | 19.8 | 21 8 | 2 0 | 13 3 |
| Bartlesville, Ok. | 20.8 | 22 8 | 3.0 | 13 3 |

*State tax is 2c. Remainder is city tax.
†Quantity price on more than 100 gallons, 18.0.
‡At all Kansas points a discount of 1 cent a gallon is allowed from the tank wagon postings on dumps of 50 gallons or more.

The following monthly rebate system is effective on tank wagon schedules throughout the territory of Standard Oil Co. of Indiana: Over 750 gallons, ½c; over 2,000 gallons, ¾ cent; over 3,000 gallons, 1 cent; over 6,000 gallons, 1¼ cents; over 10,000 gallons, 2 cents. If quantity bought during the year is equal to 12 times the monthly agreed purchases the discount will be paid or credited on the entire quantity less monthly payments. Service station customers will receive discount of 1 cent a gallon on purchases amounting to 200 gallons a month or 2,400 gallons a year; and 2 cents a gallon on 600 gallons a month or 7,200 gallons a year.

### SOUTHWESTERN DISTRICT
***Magnolia Petroleum Co.**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incids tax of | Kero. Tank wagon |
|---|---|---|---|---|
| Dallas, Tex. | †21.0 | 21.0 | 1.0 | 15.0 |
| Fort Worth | †21.0 | 21.0 | 1.0 | 15.0 |
| Houston | †21.0 | 21.0 | 1.0 | 15.0 |
| San Antonio | †21.0 | 21.0 | 1.0 | 15.0 |
| El Paso | †22.0 | 22.0 | 1.0 | 16.0 |
| Texarkana | †20.0 | 20.0 | 1.0 | 15.0 |
| Muskogee, Ok. | 19 0 | 22 0 | 3 0 | 12 0 |
| Okla. City | 17.0 | 20.0 | 3 0 | 12.0 |
| Tulsa | 19 0 | 22 0 | 3 0 | 12 0 |
| Little Rock | 21.0 | 24 0 | 3 0 | 16 5 |
| Ft. Smith, Ark. | 21.0 | 24.0 | 3 0 | 16 5 |

*The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, ½ cent; over 2,000 gallons, ¾ cent; over 3,000 gallons, 1 cent; over 4,500 gallons, 1¼ cents; over 6,000 gallons, 1½ cents; over 8,000 gallons 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases as in the tank wagon discounts.

†Magnolia maintains only a retail schedule in Texas with dealers and large consumers allowed a flat 3-cent discount.

### CENTRAL SOUTH DISTRICT
**Standard Oil Co. (Louisiana)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incids tax of | Kero. Tank wagon |
|---|---|---|---|---|
| *New Orleans | 20.5 | 23.5 | 3.0 | 15.0 |
| Alexandria | 20.0 | 23.0 | 3.0 | 16.0 |
| Baton Rouge | 19.0 | 22.0 | 3.0 | 14.5 |
| LaFayette | 20.0 | 23.0 | 3.0 | 15.5 |
| Lake Charles | 20.5 | 23.5 | 3.0 | 16.0 |
| Shreveport, La. | 19.0 | 22.0 | 3.0 | 15.0 |
| Memphis, Tenn. | 21.0 | 24.0 | 3.0 | 17.0 |
| Chattanooga | 23.0 | 25.0 | 3.0 | 17.5 |
| Knoxville | 23.0 | 26.0 | 3.0 | 18.0 |
| Nashville | 22.0 | 25.0 | 3.0 | 18.0 |
| Bristol | 23.5 | 26.5 | 3.0 | 17.5 |
| Little Rock Ark | 22.0 | 25.0 | 4.0 | 16.5 |

*Tax of 3 cents includes city tax of 1 cent.

### SOUTHERN DISTRICT
**Standard Oil Co. (Kentucky)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incids tax of | Kero. Tank wagon |
|---|---|---|---|---|
| Atlanta, Ga. | 25.0 | 28.0 | 3.5 | 19.0 |
| Augusta | 25.0 | 28.0 | 3.5 | 19.0 |
| Macon | 25.0 | 28.0 | 3.5 | 19.0 |
| Savannah | 23.0 | 25.0 | 3.5 | 17.0 |
| Birm'gham, Ala | 22.0 | 25.0 | 2.0 | 18.5 |
| Mobile | 21.0 | 24.0 | 2.0 | 17.0 |
| *Montgomery | 23.0 | 26.0 | 3.0 | 18.5 |
| Clarksdale, Miss | 23.0 | 26.0 | 4.0 | 16.5 |
| Jackson | 23.0 | 26.0 | 4.0 | 15.5 |
| Natchez | 22.5 | 25.5 | 4.0 | 16.0 |
| Vicksburg | 22.5 | 25.5 | 4.0 | 16.0 |
| Jack'ville, Fla. | 23 0 | 26 0 | 4 0 | 17.0 |
| Miami | 25 0 | 28 0 | 4 0 | 18 5 |
| Pensacola | 23 0 | 25 0 | 4 0 | 17 5 |
| Tampa | 23 0 | 26 0 | 4 0 | 17 0 |
| Covington | 24.0 | 27.0 | 5.0 | 18.0 |
| Louisville | 25.0 | 28.0 | 5.0 | 17.0 |
| Lexington, Ky. | 25.0 | 28.0 | 5.0 | 18.0 |

*In addition to the state tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ½ cent on kerosene. Prices in Georgia include ½ cent inspection fee on gasoline and kerosene: in Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of ½ cent on kerosene only.

### NEW YORK AND PART OF NEW ENGLAND DISTRICT
**Standard Oil Co. (New York)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incids tax of | Kero. Tank wagon |
|---|---|---|---|---|
| Albany, N. Y. | 21.0 | .... | ... | 17.0 |
| *New York | 21.0 | .... | ... | 17.0 |
| Buffalo | 20.0 | .... | ... | 17.0 |
| Rochester | 21.0 | .... | ... | 15.0 |
| Syracuse | 21.0 | .... | ... | 17.0 |
| Boston, Mass. | 21.0 | .... | ... | 17.0 |
| Augusta, Me. | 24.0 | .... | 3.0 | 17.0 |
| Manchester, N. H. | 23.0 | .... | 2.0 | 17.0 |
| Burlington, Vt. | 23.0 | .... | 2.0 | 17.0 |

*Price in steel barrels.
Note: Standard Oil Co. of New York does not generally quote service station price in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

### ATLANTIC COAST DISTRICT
**Standard Oil Co. (New Jersey)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incids tax of | Kero. Tank wagon |
|---|---|---|---|---|
| Atlantic City | 19.0 | .... | ... | 16.0 |
| Newark, N. J. | 19.0 | 21.0 | ... | 16.0 |
| Anapolis, Md. | 21.0 | .... | 2.0 | 16.0 |
| Baltimore | 21.0 | 24.0 | 2.0 | 16.0 |
| Cumberland | 21.0 | 24.0 | 2.0 | 16.0 |
| Washington | 21.0 | 24.0 | 2.0 | 16.0 |
| Danville, Va. | 23.5 | .... | 4.5 | 16.0 |
| Norfolk | 23.5 | 26.5 | 4.5 | 16.0 |
| Petersburg | 23.5 | 26.5 | 4.5 | 16.0 |
| Roanoke | 23.5 | 26.5 | 4.5 | 16.0 |
| Richmond | 23.5 | 26.5 | 4.5 | 16.0 |
| Charleston, W. Va. | 22.5 | 25.5 | 3.5 | 16.0 |
| Keyser | 22.5 | .... | 3.5 | 16.0 |
| Parkersburg | 22.5 | 22.5 | 3.5 | 16.0 |
| Wheeling | 22.5 | 25.5 | 3.5 | 16.0 |
| Charlotte, N. C. | 23.5 | 26.5 | 4.0 | 16.0 |
| Hickory | 23.5 | .... | 4.5 | 16.0 |
| Mt. Airy | 23.5 | 26.5 | 4.0 | 16.0 |
| Salisbury | 23.5 | 26.5 | 4.0 | 16.0 |
| Charleston, S.C. | 24.5 | 27.5 | 5.0 | 16.0 |
| Columbia | 24.5 | 27.5 | 5.0 | 16.0 |

### PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND
**Atlantic Refining Co.**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incids tax of | Kero. Tank wagon |
|---|---|---|---|---|
| *Pittsburgh, Pa. | 20.0 | 25.0 | ... | 17.0 |
| *Philadelphia | 20.0 | 25.0 | ... | 17.0 |
| *Scranton | 20.0 | 25.0 | ... | 17.0 |
| *Allentown | 20.0 | 25.0 | ... | 17.0 |
| Altoona | 20.0 | 25.0 | ... | 17.0 |
| *Erie | 20.0 | 25.0 | ... | 17.0 |
| Dover, Del. | 22.0 | 25.0 | 2.0 | 17.0 |
| Wilmington | 22.0 | 25.0 | 2.0 | 17.0 |
| Springf'd, Mass. | 21.0 | 23.0 | ... | 17.0 |
| Worcester | 21.0 | 24.0 | ... | 17.0 |
| Boston | 21.0 | 24.0 | ... | 17.0 |
| Providence, R.I. | 22.0 | 24.0 | 1.0 | 17.0 |
| Hartford, Conn. | 23.0 | 26.0 | 3.0 | 16.0 |
| New Haven | 23.0 | 26.0 | 3.0 | 17.0 |

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

### OHIO
**Standard Oil Co. (Ohio)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incids tax of | Kero. Tank wagon |
|---|---|---|---|---|
| All Ohio points | 22.0 | 24.0 | 3.0 | 17.0 |

### PACIFIC COAST DISTRICT
**Standard Oil Co. (California)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incids tax of | Kero. Tank wagon |
|---|---|---|---|---|
| San Francisco | 18.0 | 22.0 | 3.0 | 15.5 |
| Los Angeles | 16.5 | 20.5 | 2.0 | 15.5 |
| Fresno | 18.5 | 22.5 | 2.0 | 17.5 |
| Reno, Nev. | 23.5 | 27.5 | 4.0 | 19.0 |
| Portland, Ore. | 19.0 | 23.0 | 3.0 | 16.5 |
| Seattle, Wash. | 18.0 | 22.0 | 3.0 | 16.5 |
| Spokane | 22.0 | 26.0 | 3.0 | 20.5 |
| Tacoma | 18.0 | 22.0 | 3.0 | 16.5 |
| Phoenix, Ariz. | 25.0 | 28.0 | 3.0 | 21.5 |

### NEBRASKA
**Standard Oil Co. (Nebraska)**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incids tax of | Kero. Tank wagon |
|---|---|---|---|---|
| Omaha | 21 25 | 23 25 | 2 0 | 14.0 |
| McCook | 22.75 | 24 75 | 2 0 | 15.5 |
| Norfolk | 21 75 | 23 75 | 2 0 | 14.5 |
| N. Platte | 22 75 | 24 75 | 2 0 | 15.25 |
| Scottsbluff | 22 25 | 24 25 | 2 0 | 14.75 |

### ROCKY MOUNTAIN DISTRICT
**Continental Oil Co.**

| | Gasoline: Tank wagon | Gasoline: Service station | Gasoline: Incids tax of | Kero. Tank wagon |
|---|---|---|---|---|
| Denver, Colo. | 22.0 | 22 0 | 2 0 | 13.0 |
| Pueblo | 22 0 | 24.0 | 2.0 | 18.0 |
| Casper, Wyo. | 22 5 | 24 5 | 2 5 | 16.5 |
| Cheyenne | 23 5 | 25 5 | 2 5 | 18.0 |
| Butte, Mont. | 24 0 | 24.0 | 2 0 | 20.5 |
| Helena | 26.0 | 28 0 | 2 0 | 20.5 |
| Salt Lake, Utah | 26.0 | 28.0 | 3.5 | 19.0 |
| Boise, Idaho | 27.0 | 29.0 | 3.0 | 21.0 |
| Albuquerque, N. Mex. | 29 5 | 29 5 | 3.0 | 20.0 |

### STANOLIND FURNACE OIL
**(Standard Oil Co. of Indiana)**

| | |
|---|---|
| 1 to 49 gallons | 11.0 |
| 50 to 399 gallons | 10.0 |
| 400 to 849 gallons | 9.5 |
| 850 or more gallons | 9.0 |

### CALIFORNIA
***Standard Oil Co.-Union Oil Co.**
(Effective March 11)

| Gravity— | Long Beach Huntington Beach Richfield Brea-Olinda Rosecrans-Dominguez Torrance-Inglewood | Whittier La Habra Montebello | Kern River Newhall-McKittrick Midway-Sunset Elk Hills Lost Hills Belridge | Coyote | Santa Fe Springs | Coalinga | Wheeler Ridge | Santa Maria Ventura Salt Lake |
|---|---|---|---|---|---|---|---|---|
| 14° | .85 | .85 | .75 | .85 | .... | .75 | .75 | .85 |
| 15° | .87 | .85 | .75 | .85 | .... | .75 | .75 | .85 |
| 16° | .90 | .85 | .76 | .85 | .... | .75 | .75 | .85 |
| 17° | .94 | .85 | .75 | .85 | .... | .75 | .75 | .85 |
| 18° | .98 | .86 | .76 | .86 | .... | .75 | .76 | .85 |
| 19° | 1.04 | .87 | .75 | .87 | .... | .75 | .75 | .85 |
| 20° | 1.10 | .89 | .82 | .90 | .89 | .79 | .78 | .90 |
| 21° | 1.16 | .91 | .90 | .93 | .91 | .86 | .81 | .97 |
| 22° | 1.22 | .94 | 1.00 | 1.06 | .94 | .93 | .85 | 1.04 |
| 23° | 1.28 | .97 | 1.11 | 1.14 | .97 | 1.00 | .89 | 1.11 |
| 24° | 1.34 | 1.01 | 1.22 | 1.22 | 1.02 | 1.07 | .93 | 1.18 |
| 25° | 1.40 | 1.05 | 1.33 | 1.30 | 1.08 | 1.14 | .97 | 1.25 |
| 26° | 1.46 | 1.09 | 1.44 | 1.38 | 1.16 | 1.21 | 1.01 | 1.32 |
| 27° | 1.52 | 1.13 | 1.55 | 1.46 | 1.24 | 1.28 | 1.05 | 1.39 |
| 28° | 1.58 | 1.17 | 1.66 | 1.54 | 1.32 | 1.35 | .... | 1.46 |
| 29° | 1.64 | 1.21 | 1.77 | 1.62 | 1.40 | 1.42 | .... | 1.53 |
| 30° | 1.70 | 1.25 | 1.88 | 1.70 | 1.48 | 1.49 | .... | 1.60 |
| 31° | 1.76 | .... | 1.99 | .... | 1.60 | 1.56 | .... | 1.67 |
| 32° | 1.84 | .... | 2.10 | .... | 1.72 | 1.63 | .... | 1.73 |
| 33° | 1.92 | .... | 2.21 | .... | 1.84 | 1.70 | .... | 1.79 |
| 34° | 2.00 | .... | 2.32 | .... | 1.96 | 1.77 | .... | 1.85 |
| 35° | 2.08 | .... | .... | .... | 2.08 | 1.84 | .... | 1.92 |
| 36° | 2.16 | .... | .... | .... | 2.16 | .... | .... | .... |
| 37° | 2.24 | .... | .... | .... | 2.24 | .... | .... | .... |
| 38° | 2.34 | .... | .... | .... | 2.34 | .... | .... | .... |
| 39° | 2.44 | .... | .... | .... | 2.44 | .... | .... | .... |
| 40° | 2.54 | .... | .... | .... | .... | .... | .... | .... |
| 41° | 2.64 | .... | .... | .... | .... | .... | .... | .... |
| 42° | 2.74 | .... | .... | .... | .... | .... | .... | .... |

*Column 2—Long Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Brea-Olinda, 14 to 30 degrees; Torrance and Inglewood, 14 to 28; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.
Column 3—Whittier and La Habra crudes, 14 to 22 degrees; Montebello, 14 to 30 degrees.
Column 4—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset and Elk Hills, 14 to 33 degrees; Lost Hills and Belridge, 14 to 34 degrees.
Column 6—Santa Fe Springs. Only Union Oil Co. posts below 24 degrees.
Column 9—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura, 14 to 35 degrees. Posted only by Union Oil Co.

### TANKWAGON PRICE CHANGES

July 1.—Standard Oil Co. of Indiana and the Standard Oil Co. of Nebraska reduced kerosene 1 cent in their respective territories. Standard Oil Co. of Kentucky reduced kerosene 1 cent in Florida following a similar reduction in the remainder of the territory June 29.

July 3.—Standard Oil Co. of Indiana and the Standard Oil Co. of Nebraska reduced kerosene 1 cent in their respective territories.

July 5.—Continental Oil Co. reduced kerosene 1 cent in Colorado, Wyoming, New Mexico and Montana. In the first three states the reduction was almost general but in Montana many points, including Butte and Helena in the accompanying tables, the cut was only a half cent.

## OHIO FUEL CORP. BUYS GREENSBORO GAS CO.

PITTSBURGH, Pa., July 3.—Election of new officers by the Greensboro Gas Co. completed the transfer of properties of that concern in the lower Monongahela Valley to the Ohio Fuel Corp. for a consideration of approximately $9,000,000.

T. B. Gregory was named president, succeeding George K. Craig and George W. Ratcliffe was elected treasurer and David E. Mitchell, secretary. The officers with L. B. Denning and F. W. Crawford compose the new board of directors. All reside in Pittsburgh and are identified with the Ohio Fuel Corp. and other gas oil concerns.

The Greensboro Gas Co. properties, including pump stations and producing wells, were acquired by the Ohio Fuel Corp. through purchase of stock. The Greensboro Gas Corp., a subsidiary of the Ohio Fuel Corp., was organized as a holding company with the same officers as named by the operating concern.

### REUNION OF EX-PARKERITES

Scattered all over the oil world are former residents of the once thriving oil town of Parker City, Pa., and many of them will regret that they could not take part in the reunion of former Parker residents which was held in Schenley Park, Pittsburgh, on Tuesday, June 29. The reunion, in the form of a picnic, was staged by Pittsburgh people who once lived in Parker and the names of the committee of arrangements will recall to widely scattered ex-Parkerites some old neighbors and friends, as the list includes Mr. and Mrs. S. R. Wightman, Mr. and Mrs. Morris Sloan, Mr. and Mrs. William Torrence, Mr. and Mrs. Edward W. Allen, Mrs. Myrtle Morrow, Mrs. Sarah Bailey, Miss Belle Anderson, Cyrus Cowan, Wade Miller, Mr. and Mrs. Joseph Fullerton, Mr. and Mrs. T. Ralph Barr, Mr. and Mrs. G. Alfred Needle, William L. Taylor, Mrs. Edna Anderson, Mrs. Lucille Miller Werner, Pressley Bailey, Howard McNutt, Henry S. Cohen.

# WAR on WASTE!

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of wear there is
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SINCLAIR OIL
to suit its speed
and seal its power

SINCLAIR OILS

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# Personnel at Natural Gasoline Plants

## Success Depends Largely on Choice of Operating Force. Inspection of All Equipment Connected With Gathering System Important

By Frank P. Peterson

Very little on the subject of operation in the natural gasoline industry has been published to the writer's knowledge. Various phases and details have been brought out and discussed in convention meetings. Some of the more important special phases which have been treated in the form of papers and their discussion in association and convention work have reached publication and thereby have been presented to those sufficiently concerned to clip and retain for reference the information. Since, however, the tendency is not general to gather together and systematically arrange the published data pertaining to a subject when the same may be diversified in character and sequence of its published appearance, the matter which has appeared in published form has not, it is surmised, benefited the men of the industry to that degree which would have resulted, could it have appeared more systematically arranged and connected.

An effort will not be out of place to present a discussion of the art logically and as comprehensively in order as possible. In order to do this much ground will have to be covered that is well known to the trained operator. To the skilled and experienced operation man, therefore, due apology is offered for the presentation of subject matter which to him is well known and understood. A conviction is, the writer feels, not misplaced that such effort will in no wise be wasted.

### Progressive Growth

The industry, while not immature, is in a very healthy state of progressive growth in every direction; as much so in all its phases of operation as in its constructive, progressive elements of structural development. Reference has been made to the transitory condition of equipment; to the progressive approach toward perfection and the standardization of thoroughly good equipment adapted to highest productive efficiency; the same reference may just as well be applied to operation. The goal of operation is, of course, 100 per cent efficiency coupled with persistent effort toward reduction of operating expense. And as the designer and builder of new or better equipment moves along his path of progress, also the operator in his field must be prepared to take hold of, not only his problems in the regular field as they have developed with his established experience of the past, but he must take hold of every advancing utility offered. He must put that utility where it belongs in the scale of its importance. He must realize out of it all its possibilities, and with an eye and a mind to every past accomplishment, he must be qualified to weigh out the results in the terms offered or imposed by all the facilities made available to him. His problems are so emphatically different as to occupy a place of entirely different and well defined alignment. Through this discussion, though it must be necessarily burdensome in some of its tedium, a very large number of aggressive and ambitious young men will be reached and helped, it is hoped, to a quicker and better understanding of the art in which they are engaged. No less fascinating and romantic is the operative or productive phase of the industry than is the construction; yet the two branches call out and into best efforts the faculties of two distinctly different types of men.

Some of the larger companies in the oil business have recognized the last stated fact and have profited thereby in the development and maintenance of organized construction and operative branches of man force. Not much was said in a previous series of articles of the phase of large gasoline plants on the subject of personnel. In attempting a discussion of operation the personnel detail merits some attention.

The construction development of a gasoline plant is a matter of months. The forces concerned therewith are in a sense migratory. In their relation to operative forces, they are in some sense comparable to the stage carpenter and electrician as related to the performers of the drama. In other words, the carpenter and the electrician may come and go and any carpenter and any electrician may set and light the stage from stock instruction; but the performer who reaches the very pinnacle of mastery in his work does it by faithful repetition of his performance over and over.

### Importance of Personnel

Especial attention will be given to this personnel characteristic when young men are being considered. An inspection for comparisons would likely show that men in the operative branch of the industry are more mature in years than those in the construction; that they have passed successfully through the migratory period; that they have the settled, contented temperament and are in most cases heads of families. Operation offers the latter named conditions, nor yet should the channels of progressive thought and interest in their avocation be closed to or denied the men in the operative branch of the industry. On the contrary, since the spice of existence depends to some extent on new and novel perceptions in the art with which we are concerned, there exists all the greater incentive to lay open and present all those views which may be either new or novel, or presented in such a manner.

### Technical Training

It is now only a short time since the major banking interests have recognized fully the importance of our oil industry. With and since that recognition it seems to the writer there has been a most remarkable addition to the personnel of the industry from the best young brains of our time; schooled in the fundamentals and equipped in most cases with technical training. The sons of prosperous oil men have arrived in this youngest branch of the industry from, in many instances, the most perfect environment conceivable.

### Arrangement of Personnel

Personnel for operation will be selected first with reference to actual experience in this line and branch of the industry and in about the following order of arrangement:

- Management
  - Superintendent or Chief Engineer
  - Purchases and Sales
  - Contracts and Legal
  - Accounting
- Clerk — Meter Chartmen; Time and Material Man
- Field Test Man
- Chemist — Loading Rack Man; Stillmen; Firemen
- Master Mechanic or Maintenance and Repair Man — Engineers; Oilers; Repairmen
- Electrician
- Meter Repairman
- Line Walker
- Field (Gas) Line and Drip Man

Men with experience in operation are especially important in the starting of a large, new plant. Next in importance are men who have a high degree of intelligence and who may have had considerable construction experience and who have been employed in the construction of the plant which is to be put into new operation. Thus it may be said in summarizing the highest type of qualification that the men who have had considerable experience in construction and who have passed from that experience into thorough training in operation make up the most valuable and skilled operative force. Young men who have come through technical schools, taking courses of mechanical or chemical engineering and chemistry, are taught the value of construction experience and more frequently than otherwise seek it to round out an ideal vocational preparation. Most frequently a large development in plant construction will attract one or more men holding the qualifications outlined. These men will, of course, be sought and selected for the important posts in operation. Additional forces will be selected out of the ranks of construction men from the evidences indicated in their general character, initiative, industry, etc.

It is not necessary to review those characteristics which go to make up the evidences of honesty, integrity and sobriety. These are assumed essentials.

### Selection of Men

As the details of construction in a large plant approach completion, management will have begun careful and systematic selection of the forces for operation and the tentative organization will be outlined. The suggestion of tentative arrangement is not amiss for the reason that it is rather difficult and unusual to make a successful first effort in the placing of all the operative force. No matter how keen the judgment employed, errors are usually made and some readjustments generally follow in the assembly of a competent operative force. It will be understood that it is not possible, due to the rapid growth and expansion of the industry, to find a full complement of operating personnel experienced in the art and ready to take hold of any new plant of magnitude. And among the forces which will be selected there will be, unavoidably arising, the natural human tendencies of jealousy and vieing for the places of choice. A rather cold blooded and heartless situation will exist in which the superintendent must exercise his faculties toward the unfailing law wherein the fittest will survive.

With regard to the men who have had previous experience, it may be said that it would be difficult to start and successfully develop operation in a large plant without one or more such men at hand.

Certain hazards exist at this critical stage and they are not to be neglected or underestimated. In the early days when compression plants were the known method of the industry a near proverb was developed to the effect that not until a plant operator was properly but not disastrously burned could he qualify as a skilled and desirable man. With departure from the high range of pressures then employed, and to the credit of unflagging vigilance and effort in the right direction, personal risk from the danger of fire has been largely but not entirely eliminated. In spite of the most painstaking supervision to prevent such occurrences experienced stillmen have, in the writer's knowledge, proceeded to crawl halfway into a still furnace, using kerosene and matches for the starting of their fires; this in the glamour and momentary enthusiasm of bringing a new job into operation. And when these kind of things occur the superintendent must look well into surveilance of every inexperienced man in whose hands he must place the details of developing operation.

An outline of operating personnel is presented:

### Training of Superintendent

The superintendent or chief engineer must qualify in thorough training and experience in operation. If he can combine also a good measure of construction experience, his value to operation will be a maximum. Immediately responsible to superintendent will be a general repair man or master mechanic, chemist or plant control man, field man, clerk, and in the case of electric auxiliary plant a capable electrician. Engine men, stillmen, oilers and firemen are next immediately concerned in operation, and an expert meter man, field line or drip man, chart man and a capable test man with field test equipment are required in support of the plant in its operation. Usually, also, loading rack, gasoline line walker and the forces required on that end are responsible to plant superintendent.

As is indicated above it is a fortunate case in which the chief engineer or superintendent of operation may have had supervision of the plant construction. In the other event, where operation is to be taken over by a new man, the matter of transfer of equipment into his hands is important and there will be the proper relationship developed wherein he will have access for thorough inspection and his own exercise of judgment as to the necessary details of preparation for the service which will be called for.

### Inspection of Lines

Construction of field lines and all connections to gas gathering sources will usually have attended properly to the inspection and testing of this division of equipment, since it must usually be covered before it can be called on for service. Connecting lines to field gas sources should be tested tight under gas pressure of 25 to 30 pounds per square inch. Good, systematic effort in the right direction, by releasing the compressed air or gas used in testing lines at proper points and suddenly, will serve remarkably well to the clearing out of detritus and the accumulation of "ruck" in these lines. Such a course will save much annoyance to operation forces. Thorough inspection of the arrangement of drips, field fluid separators and provision for their drainage, are within the field of operator's responsibilities, and this should be done.

The widely diversified character of equipment to which gathering lines must be connected also calls for the critical judgment of a capable operation man. This will be especially true in the flush condition of a new field. Equipment of entirely approved type is rapidly gaining a foothold of standardized use. Gas and

### FIRST OF SERIES

The accompanying article is the first of a series by Mr. Peterson dealing with the operating problems in natural gasoline manufacture. In this article he discusses the importance of personnel and the correct method of handling the gathering lines in the field.

Subsequent articles by Mr. Peterson who is one of the veteran operators in the Mid-Continent Field will deal with other phases of plant operation.

oil separators of adequate capacity and strength to function as they should are finding more and more general application and to these the problem of connection for the gathering line construction forces of the field is a simple one. But, unfortunately for these same field forces, they will be called upon to hook up to flow tanks, and often times where the gases to be gathered are prime in importance of volume and richness, wherein no small measure of ingenuity is required.

The oil type of tank is but little better than a paper bag. When called upon to function as a separator for a flowing oil and gas well the practice of the past has been to leave a hole so large as to preclude the possibility of the development of any pressure whatever in the tank. A variance of as much as one ounce is sufficient in the case of thin walled tanks of large diameter to impart to them much of the antics of an accordion in the hands of a good Italian musician. Thus it is necessary to provide by means of swings, Dresser couplings and what not, a large flexibility in the connection; in addition pressure regulators of extreme sensitiveness and a sure dependability must be set up in these connections. And beyond this, for redoubled safety, automatic vent vales and ample relief or atmospheric vent lines must be installed.

### Safety and Efficiency

The operation man will do well to go over all and sundry field connections with an eye, first, to safety in the interest of his operating forces and, second, to that of his equipment, to the end that he may realize a measureable degree of efficiency in his operation from the start.

The gasoline industry approaches now that degree of aggressiveness which throws it into contemporaneous development along with the drilling in of a new field. Up to that stage of extension of gathering system which may bring about a fairly continuous gas flow through a mean range of action of several flush wells, a bad condition of fluctuating volume on which plant is dependent, can and does occur. If after all the precautions and provisions for protection against the hazards of widely fluctuating gas volumes are not provided in the field, and this relates especially to prevention of admission of large air volumes, serious and annoying consequences may develop in operation.

Nor is the matter of inspection (and correction, if necessary) of field detail sufficient: oil lease forces must be apprised of the approach of operation, their co-operation sought, an assurance given that the latter will be reciprocated. Much of the early prejudice of the harm a gasoline plant can do to oil production has disappeared, and hearty co-operation from production forces is now the rule rather than the exception.

## NORTH CENTRAL TEXAS

(Continued from Page 40)

were as follows: Brown & Co.'s No. 2 Gaines, 25 bbls. at 1,324-39 feet; Carter and others' No. 1 Nixon, dry and abandoned at 1,936 feet; J. S. Cosden's No. 9 Baxter, 5 bbls. at 1,286-1,305 feet; No. 11 Westerman, 15 bbls. at 1,271-98 feet; No. 3-A Williams, 400 feet of oil in the hole at 1,181-86 feet (not completed).

Fagg and others' No. 2 Butler, dry and plugged at 1,320 feet. Gillespie's No. 6 Newton, shot with 20 quarts, made 25 bbls. at 1,304-19 feet. Hughes Development Co.'s No. 13 Arledge, 20 bbls. at 1,285-1,318 feet; No. 2 Keller, shot with 20 quarts, dry and abandoned at 1,147-55 feet. The Humble Oil & Refining Co.'s No. 3 J. H. Allen had a show of oil at 1,128-32 feet; No. 5-B Allen had show at 1,105-19 feet, total depth 1,160 feet; No. 2-B Kilgore Brothers, shut down for orders at 1,170 feet with show at 1,133-38 feet; No. 5 Stover, 40 bbls. at 1,145-51 feet. The Midwest Exploration Co.'s No. 4 Suttles, 25 bbls. at 1,135-48 feet; No. 5 Suttles, shot with 20 quarts, made 5 bbls. at 1,139-51 feet; No. 6 Suttles, 50 bbls. at 1,126-45 feet; No. 7 Suttles, shot with 20 quarts, made 50 bbls. at 1,156-70 feet. Nelson & Crabtree's No. 1 Hill was dry and abandoned at 2,550 feet. The Pandem Oil Corp.'s No. 3 Westerman, 20 bbls. at 1,253-65 feet. Root's No. 5 Suttles, 10 bbls. at 1,111-26 feet. Schaffner & Ramsey's No. 1 Henson, shot with 25 quarts, made 40 bbls. at 1,262-75 feet. The Simms Oil Co.'s No. 8 Gaines was dry and abandoned at 1,270 feet. Thomas & Reynolds' No. 1 Patterson, dry and plugged at 2,945 feet. Williamson and others' No. 5 Newton, shot with 30 quarts, made 65 bbls. at 1,197-1,221 feet; No. 6, shot with 40 quarts at 1,220-45 feet, made 15 bbls.

In the Dibrell Pool of Coleman County, the White Eagle Oil & Refining Co.'s No. 2 Dibrell was drilled deeper and encountered the ocean at 2,045 feet and was plugged. The Kirby Petroleum Co.'s No. 2 Dibrell was shot with 30 quarts and made 60 bbls. at 1,992-2,042 feet. This is a northwest extension of the pool. The Burke-Greis Oil Co. and Gwinnup's No. 7 Dibrell made 5 bbls. at 1,875 95 feet.

### PRODUCTION BY FIELDS FOR WEEK ENDING JUNE 28, 1926

**Electra**

| | |
|---|---|
| Atlantic Oil Prod. Co. | 49 |
| Empire Gas & Fuel Co. | 633 |
| Gulf Production Co. | 1,044 |
| Humble Oil & Ref. Co. | 149 |
| Magnolia Petroleum Co. | 3,367 |
| Panhandle Refining Co. | 44 |
| Phillips Petroleum Co. | 16 |
| Prairie Oil & Gas Co. | 109 |
| Rio Bravo Oil Co. | 580 |
| The Texas Company | 3,642 |
| Texhoma Oil Refining Co. | 1,291 |
| Miscellaneous | 5,549 |
| Total | 16,473 |

**Burkburnett**

| | |
|---|---|
| Gulf Production Co. | 435 |
| Humble Oil & Ref. Co. | 435 |
| Magnolia Petrolia Co. | 2,603 |
| Panhandle Refining Co. | 243 |
| Prairie Oil & Gas Co. | 33 |
| Sinclair Oil & Gas Co. | 53 |
| Skelly Oil Co. | 180 |
| The Sun Oil Co. | 50 |
| The Texas Company | 374 |
| Texhoma Oil & Ref. Co. | 544 |
| Miscellaneous | 7,303 |
| Total | 12,253 |

**Iowa Park**

| | |
|---|---|
| Atlantic Oil Prod. Co. | 70 |
| Gulf Production Co. | 128 |
| Humble Oil & Ref. Co. | 160 |
| Magnolia Petroleum Co. | 295 |
| Panhandle Refining Co. | 31 |
| Roxana Petroleum Corp. | 10 |
| Simms Oil Co. | 10 |
| The Texas Company | 220 |
| Texhoma Oil & Ref. Co. | 630 |
| Miscellaneous | 2,912 |
| Total | 4,466 |

**Wilbarger**

| | |
|---|---|
| Atlantic Oil Prod. Co. | 105 |
| Empire Gas & Fuel Co. | 937 |
| Gulf Production Co. | 39 |
| Humble Oil & Ref. Co. | 3,280 |
| Phillips Petroleum Co. | 5,740 |
| Prairie Oil & Gas Co. | 123 |
| Roxana Petroleum Corp. | 465 |
| The Texas Company | 29 |
| Texhoma Oil & Ref. Co. | 128 |
| Tidal Oil Co. | 22 |
| Miscellaneous | 4,245 |
| Total | 15,113 |

**Archer**

| | |
|---|---|
| Atlantic Oil Prod. Co. | 260 |
| Barnsdall Oil Co. | 1,078 |
| J. S. Cosden, Inc. | 688 |
| Empire Gas & Fuel Co. | 504 |
| Gulf Production Co. | 2,955 |
| Humble Oil & Ref. Co. | 1,418 |
| Independent Oil & Gas Co. | 12 |
| Magnolia Petroleum Co. | 1,684 |
| Marland Oil Co. | 500 |
| Panhandle Refining Co. | 110 |
| Phillips Petroleum Co. | 576 |
| Prairie Oil & Gas Co. | 2,160 |
| Roxana Petroleum Corp. | 350 |
| Simms Oil Co. | 617 |
| Sun Oil Co. | 332 |
| The Texas Company | 3,281 |
| Texhoma Oil & Ref. Co. | 3,099 |
| Tidal Oil Co. | 51 |
| Miscellaneous | 13,061 |
| Total | 32,636 |

**Young**

| | |
|---|---|
| Atlantic Oil Prod. Co. | 535 |
| J. S. Cosden, Inc. | 175 |
| Gulf Production Co. | 223 |
| Humble Oil & Ref. Co. | 374 |
| Magnolia Petroleum Co. | 150 |
| Mid-Kansas Oil & Gas Co. | 10 |
| Panhandle Refining Co. | 138 |
| Phillips Petroleum Co. | 19 |
| Prairie Oil & Gas Co. | 10 |
| Roxana Petroleum Corp. | 124 |
| Simms Oil Co. | 745 |
| Sinclair Oil & Gas Co. | 350 |
| Sun Oil Co. | 190 |
| The Texas Company | 459 |
| Texhoma Oil & Ref. Co. | 305 |
| Tidal Oil Co. | 140 |
| Miscellaneous | 3,750 |
| Total | 7,697 |

**Stephens**

| | |
|---|---|
| Arkansas Fuel Oil Co. | 25 |
| Empire Gas & Fuel Co. | 25 |
| Gulf Production Co. | 1,202 |
| Humble Oil & Ref. Co. | 730 |
| Magnolia Petroleum Co. | 350 |
| Mid-Kansas Oil & Gas Co. | 1,540 |
| Phillips Petroleum Co. | 435 |
| Prairie Oil & Gas Co. | 725 |
| Republic Production Co. | 130 |
| Roxana Petroleum Corp. | 50 |
| Simms Oil Co. | 25 |
| Sinclair Oil & Gas Co. | 80 |
| Sun Oil Co. | 165 |
| The Texas Company | 955 |
| Texas Pacific Coal & Oil Co. | 1,405 |
| Transcontinental Oil Co. | 2 |
| Miscellaneous | 4,435 |
| Total | 12,279 |

**Shackelford**

| | |
|---|---|
| Empire Gas & Fuel Co. | 25 |
| Humble Oil & Ref. Co. | 1,110 |
| Magnolia Petroleum Co. | 50 |
| Phillips Petroleum Co. | 675 |
| Prairie Oil & Gas Co. | 10 |
| The Texas Company | 185 |
| Texhoma Oil & Ref. Co. | 75 |
| Miscellaneous | 7,850 |
| Total | 9,980 |

**Ranger**

| | |
|---|---|
| Arkansas Fuel Oil Co. | 5 |
| Gulf Production Co. | 533 |
| Humble Oil & Ref. Co. | 45 |
| Magnolia Petroleum Co. | 650 |
| Mid-Kansas Oil & Gas Co. | 125 |
| Panhandle Refining Co. | 135 |
| Phillips Petroleum Co. | 15 |
| Prairie Oil & Gas Co. | 565 |
| Republic Production Co. | 45 |
| Simms Oil Co. | 30 |
| Sinclair Oil & Gas Co. | 305 |
| The Texas Company | 155 |
| Texas Pacific Coal & Oil Co. | 780 |
| Transcontinental Oil Co. | 25 |
| Miscellaneous | 2,490 |
| Total | 5,903 |

**Eastland-Comanche**

| | |
|---|---|
| Empire Gas & Fuel Co. | 10 |
| Humble Oil & Ref. Co. | 90 |
| Magnolia Petroleum Co. | 615 |
| Mid-Kansas Oil & Gas Co. | 125 |
| Phillips Petroleum Co. | 35 |
| Prairie Oil & Gas Co. | 75 |
| Sinclair Oil & Gas Co. | 15 |
| Skelly Oil Co. | 120 |
| The Texas Company | 105 |
| Transcontinent Oil Co. | 25 |
| Miscellaneous | 685 |
| Total | 1,900 |

**Brown**

| | |
|---|---|
| J. S. Cosden, Inc. | 625 |
| Humble Oil & Ref. Co. | 1,160 |
| Phillips Petroleum Co. | 100 |
| Prairie Oil & Gas Co. | 725 |
| Simms Oil Co. | 35 |
| The Texas Company | 455 |
| Witherspoon Oil Co. | 25 |
| Miscellaneous | 4,760 |
| Total | 7,885 |

**Callahan**

| | |
|---|---|
| Humble Oil & Ref. Co. | 3 |
| Prairie Oil & Gas Co. | 525 |
| The Texas Company | 170 |
| Texas Pacific Coal & Oil Co. | 20 |
| Miscellaneous | 3,215 |
| Total | 3,933 |

**Miscellaneous Pools**

| | |
|---|---|
| Reagan County | 30,247 |
| Clay County | 497 |
| Montague County | 4,467 |
| Jack County | 112 |
| Throckmorton County | 568 |
| Baylor County | 153 |
| Palo Pinto County | 438 |
| Coleman County | 1,710 |
| Scurry County | 58 |
| Mitchell County | 3,480 |
| Crockett County | 790 |
| Upton County | 561 |
| Howard | 32 |
| Crane | 16 |
| Total | 43,129 |

**Panhandle**

| | |
|---|---|
| Carson County | 2,764 |
| Hutchinson County | 43,937 |
| Wheeler County | 305 |
| Gray County | 3,020 |
| Potter County | 35 |
| Total | 50,061 |
| Grand total | 223,708 |

### Completions—Archer County

The Allday Oil Co.'s No. 2 B. G. Hassen, Section 165, R. Carson Survey, was dry and abandoned at 1,513 feet. L. T. Burns' No. 1 McCrory, Tr. "E" was also a failure at 1,655 feet. The Cosden and Consolidated Oil Co.'s No. 1 G. T. Netherton, NW cor. SW NE, Section 92, A. T. N. C. L. Survey, was another duster at 1,700 feet. Golding & Cochran's No. 1 J. A. Bell, Section 15, Block 5, Clark & Plumb Subdivision, was dry at 1,508 feet; No. 1 R. O. Prideaux, Section 3, Indianola R. R. Survey, was abandoned at 780 feet. It had a hole full of water in sand at 772-80 feet. Lewis Oil Corp.'s No. 2 H. O. Prideaux, A. Rohus Survey, A-240, was good for 20 bbls. at 611-22 feet and 628-36 feet. M. L. Lewis and others' No. 2 "B," A. D. Thompson, Lot 3, Block 21, A. T. N. C. L. Survey, made 10 bbls. of oil and 40 bbls. of water at 1,578-82 feet.

Marland Oil Co.'s No. 3 Thomas, Section 5, North Subdivision of Nathan Thomas Survey, pumped 150 bbls. at 1,153½-66 feet. It had swabbed as high as 250 bbls. Murchison & Fain's and Payne's No. 1 Sarah E. Finch, Section 98, A. T. N. C. L. Survey, was dry and abandoned at 1,540 feet. Pandem Oil Corp.'s No. 1 W. H. Thomas "D" swabbed 90 bbls. at 1,152-65½ feet and was completed. Rayzor & Seaberry's No. 2 George Parrish, Lot 9, Section 98, A. T. N. C. L. Survey, was dry and abandoned at 1,530 feet. Shasta Oil Co.'s No. 5 Meade Estate "A," Section 39 of Meade Subdivision "L M" pasture, was good for 10 bbls. at 1,424-48 feet. Shasta Oil Co. and others' No. 1 Parsons, E. L. R. R. Survey No. 1, A-688, was a failure at 1,614 feet. Shaw & Rathke's No. 1-A Robinson was a 15-bbl. well at 654-64½ feet.

### Baylor County

Brit Cranfill and others' No. 6 W. B. Mills, Section 2,413, T. E. & L. Survey, A-464, pumped 35 bbls. from sand at 1,428-30 feet.

### Brown County

Bedichek's No. 1 Dunn was a location abandoned. Blair & Kell also abandoned the location for No. 7 Byrd in the N. B. Mitchell Survey No. 150, and Curry & Moore's location for No. 1 Wooldridge was the third one abandoned. Curry & Moore's No. 2 Prather, in the William L. Swain Survey No. 145, was dry and abandoned at 1,335 feet. Cox & Spratt's No. 1 Riordan was a failure at 1,508 feet and Goldrick & Baker's No. 1 Harrell was plugged at 1,681 feet. The Hepburn Oil Co.'s No. 3 Gaines was a location abandoned. The Hughes Development Co.'s No. 12 Arledge in the N. B. Mitchell Survey No. 150, was completed for 30 bbls. in sand at 1,279-1,301 feet, total depth being 1,305 feet. The same concern's No. 1 J. Wooldridge in the H. B. Gaines Survey, A-1,400, was dry and abandoned at 1,385 feet. Humble Oil & Refining Co.'s No. 4 Stover, in the Juan Delgado Survey, No. 785, was a 10-bbl. well at 1,134-42 feet. Louisiana Oil & Refining Corp.'s No. 1 Henslee was good for 125 bbls. at 1,270 81 feet. McLester Oil Co.'s No. 1-A J. Wooldridge was a failure and plugged at 1,318 feet. Location for the McMan Oil & Gas Co.'s No. 1 Gaines, William L. Swain Survey, was abandoned. Mendenhall and others' No. 11 Newton, William L. Miller Survey No. 149, made 10 bbls. initially from sand at 1,140-58 feet. Mitcham & Logan's No. 1 Browder was dry and abandoned at 1,303 feet.

Phillips Petroleum Co.'s No. 4 T. L. Dunn, Section 12, Juan Delgado Survey No. 785, was good for 30 bbls. at 1,147-60 feet; No. 5 Dunn made 35 bbls. at 1,147-61 feet. Prairie Oil & Gas Co.'s No. 8 G. W. Pickett, Jr., made only 2 bbls. at 1,288 99 feet, total depth 1,301 feet; No. 6 Wooldridge was a 100-bbl. well at 1,237-60 feet. Ray & Co.'s No. 1 Stout, Lot 3, W. B. Smith Survey No. 155, was completed for 4,000,000 feet of gas at 1,140-80 feet. E. L. Smith Oil Co.'s No. 2 Graham Estate, Section 7, J. Brown Survey No. 137, was dry and abandoned at 1,174 feet. Superior Oil Corp.'s No. 1 Giddings was a failure and plugged at 2,404 feet. Valley Oil Co.'s No. 1 A. B. Teston, in the P. Curlong Survey No. 151 was good for 150 bbls. at 1,228-51 feet, total depth being 1,261 feet. Williamson and others' No. 4 H. A. Newton in the Robert Mitchell Survey No. 141, was a 75-bbl. producer at 1,218-44 feet.

### Callahan County

Hughes Development Co.'s No. 1 Cutbirth was dry and abandoned at 2,545 feet; No. 1 Freeland was also a failure at 2,002 feet. T. B. Slick's No. 1 Bond produced 270 bbls. at 1,393-96 feet and the Prairie Oil & Gas Co.'s No. 10 McDonough 400 bbls. on the swab at 1,392-1,401 feet.

### Clay County

Lone Star Gas Co.'s No. 20 Holloway, Parker County School Land, A-374, was dry and abandoned at 1,834 feet. Western Oil Corp.'s No. 2 Kaufman & Jones was also a failure at 1,720 feet.

### Coleman County

Miller & Stovall's No. 1 Edmondson was spudded and abandoned at 670 feet. Mitcham & Logan's No. 1 Lobstein was dry and abandoned at 1,820 feet.

### Eastland County

Magnolia Petroleum Co.'s No. 11 Harris, in the M. Finch Survey, produced 70 bbls. of oil and 3,000,000 feet of gas at 1,391-1,410 feet. Smith and others' No. 1 Wright, in Lot 52, Leagues 3 and 4, McLennan County School Land, was flowing and swabbing 135 bbls. when completed in sand at 1,450-66 feet with total depth at 1,467 feet. Mook and others' No. 1 Butler, in the D. E. Holloway Survey, was dry and abandoned at 1,502 feet. Root and others' No. 1 Strickland was also a failure at 3,730 feet.

### Jack County

Baytex Oil Co.'s No. 2 Snedeker

pumped 20 bbls. at 783-98 feet. Godley Oil Co.'s No. 1 Allen was dry and abandoned at 800 feet. Guthrie and others' No. 1 Snedeker in the J. Robbins Survey, A-490, made 10 bbls. at 781-88 feet. Hastain & Purman's No. 1 Brown was a failure at 1,002 feet. Hill & Rutter's No. 1 C. C. Bloodworth, center Section 3,317, T. E. & L. Survey, was dry and abandoned at 450 feet. S. E. Oldham and others' No. 1 Hanna, Section 3,313, same survey, made 10 bbls. at 367-72 feet.

**Haskell County**

Kouri and others' No. 2 Ballard was dry and abandoned at 4,017 feet.

**Mitchell County**

California Co.'s No. 1 C. M. Adams, Lease 3 in the Westbrook Field, swabbed 112 bbls. at 2,955-3,065 feet, total depth 3,080 feet, and was completed.

**Montague County**

The F. H. E. Oil Co.'s No. 1 N. J. Howard and others was good for 35 bbls. at 1,126-51 feet. Harris & Simons' No. 1 J. W. Maddox was completed for 125 bbls. at 871-98 feet. Humble Oil & Refining Co.'s No. 7 R. Hinds in the J. J. Wall Survey, made 6 bbls. at 932-40 feet, total depth 947 feet. The Texas Company's No. 9 "A" Gist in the William Donoho Survey, A-178, was a 125-bbl. well at 875-900 feet, total depth 902 feet; No. 10 Gist "A" made 80 bbls. at 860-67 and 869-98 feet; No. 8 J. B. Oldham and others made 125 bbls. at 1,072-91 feet, total depth 1,120 feet. The Texhoma Oil & Refining Co. and Republic Production Co.'s No. 1 E. J. Bouldin "A" in the John Chambliss Survey produced 43 bbls. of oil and 17 bbls. of water at 1,184-97 feet; No. 7 R. Hinds in the J. J. Wall Survey, made 50 bbls. at 957-66 feet; No. 8 Hinds made 25 bbls. at 924-43 feet, total depth 944 feet; No. 4 "A" Howard and others in the John Chambliss Survey, made 30 bbls. at 1,360-72 feet.

**Shackelford County**

Heck and others' No. 2 Reynolds, Section 52, Block 12, T. & P. Survey, was dry and abandoned at 1,585 feet. Jackson and others' No. 1 Flippen in Section 41, Block 11, same survey, was also a duster at 1,316 feet. Milham Corp.'s No. 3 Z. W. Casey, Section 581, T. E. & L. Survey, was completed for 12 bbls. at 555-57 feet. Richardson Brothers' No. 1 Colbert, Section 178, E. T. R. R. Survey, was a failure and plugged at 1,810 feet.

**Stephens County**

Brown & Co.'s No. 1 Norvell was dry and abandoned at 3,359 feet. Eidson and others' No. 3 Post, Section 62, Block 6, T. & P. Survey, made 25 bbls. of oil and 2,000,000 feet of gas at 1,833-50 feet, total depth 1,863 feet. Strawn Petroleum Co.'s No. 24 Stewart in Section 70, Block 4, T. & P. Survey, was dry and plugged at 3,703 feet.

**Reagan County**

The Texon Oil & Land Co.'s No. 46 University, Gorup 1, in the Big Lake Field flowed 720 bbls. at 2,996-3,015 feet when completed.

**Crane County**

Gilliam & Logan's No. 1 W. H. Penix was dry and abandoned at 3,410 feet.

**Reeves County**

Bell & Regan abandoned the location for No. 1 Kloh & Rumsey and the World Oil Co. plugged its No. 1 Kloh & Rumsey as a failure at 3,768 feet.

**Crockett County**

Humble Oil & Refining Co.'s No. 7 Powell pumped 15 bbls. at 2,660-65 feet.

## OIL SECURITIES REACH NEW 1926 HIGH MARK

(Continued from Page 125)

On behalf of the stockholders and directors, President Shoup makes acknowledgment with appreciation of the efforts of officers and employes of the company that were so marked a factor in its success, and adds that, under the consolidation with Standard Oil Co. (California), it was possible for the new company, Standard Oil Co. of California (Del.) to retain substantially all of them in its service without loss in place or pay.

Stockholders of Pacific Oil Co. as of December 31, 1925, numbered 29,474, against 31,972 at the end of 1924.

**Chesebrough Manufacturing**

The Chesebrough Manufacturing Co. reports for the year ended December 31, 1925, profit of $1,003,032. The income account for the period follows:

| | |
|---|---|
| Profit | $1,003,032 |
| Dividends | 427,500 |
| Surplus | $ 575,532 |
| Previous surplus | 1,742,491 |
| Total surplus | $2,318,023 |
| Reserves appropriated | $1,336,484 |
| Pfd. stock prem., etc. | 125,877 |
| P. & L. surplus | $ 855,662 |

The balance sheet of the Chesebrough Manufacturing Co. as of December 31, 1925, follows:

| Assets | |
|---|---|
| Cash | $ 177,631 |
| Accounts receivable | 21,949 |
| Notes receivable | 100,529 |
| Investments | 1,397,551 |
| Inventories | 1,680,381 |
| Plants, real estate, etc., less depr. | 1,577,081 |
| Incomplete construction | 11,529 |
| Furniture and fixtures, less depr. | 21,897 |
| Autos, trucks, etc., less depr. | 5,153 |
| Oil properties, less depl., and depr. | 97,016 |
| Redemption pfd. stock dep. acct. | 55,237 |
| Deferred charges | 42,318 |
| Total | $5,388,272 |
| **Liabilities** | |
| Accounts payable | $ 135,563 |
| Deferred credits | 5,326 |
| Redemption of pfd. stock | 55,237 |
| Common stock | 3,000,000 |
| Sundry reserves | 1,336,484 |
| Surplus | 855,662 |
| Total | $5,388,272 |

## UNIVERSITY OIL BIDS DELAYED TO OCTOBER?

AUSTIN, Tex., July 3.—Advertisement of University lands for the sale of oil and gas rights to the highest bidders are held up with the reopening of the case of George W. Theisen of El Paso vs. Land Commissioner J. T. Robison in the Supreme Court. Theisen is seeking to mandamus Commissioner Robison to sell him rights in compliance with the old law, which provided for the sale at 10 cents an acre, with the customary one-eighth royalty. He claims the later law providing for sale to the highest bidder is unconstitutional, or does not repeal the previous law.

After refusing a motion for leave to file petition for mandamus, the Supreme Court granted a motion for rehearing and also granted the motion for leave to file the petition. Following the previous disposition of the case, immediate preparations were made at the Land Office for advertisement, there being considerable demand in some counties. The advertisement was withheld, however, and now unless the Supreme Court disposes of the case promptly the matter will be postponed until the first Monday in October. This means that the development of University lands might be held up until that time, Commissioner Robison having said that he did not intend to advertise until the pending case is disposed of.

Theison claimed that thousands of dollars were being lost to the University by the new law demanding advertisement. Wildcatting, which is necessary for development of these lands, is prevented unless large blocks of land are available, he said. Under the competitive bid law, the obtaining of large blocks is almost impossible, he contended. He added that he did not believe development would have come in Reagan and Crane Counties as it has under this law.

## TO SEIZE PROPERTY OF WITNESSES ABROAD

WASHINGTON, July 5.—Two bills sponsored by Senator Walsh of Montana were passed in the closing hours of Congress and signed by the President with the object of serving subpoenas on American witnesses now residing abroad and shortening the procedure in the District of Columbia courts to speed up the oil cases pending here. Both measures are to expedite Federal prosecution of the naval oil lease cases. A maximum fine of $100,000 and a seizure of property of witnesses residing abroad who refuse to comply with subpoenas served by American consuls are provided.

**REFINING OPERATIONS IN NORTH LOUISIANA**
(Plants which have been in operation during the past year.)

(Continued from Page 29)

| Name and location— | Daily Capacity | Runs July 1 | Runs June 1 |
|---|---|---|---|
| Crystal Oil Ref. Corp. (Caddo Central), Shreveport | 5,000 | 5,000 | 5,000 |
| Crystal Oil Ref. Corp. (Caddo Central), Shreveport | 3,500 | 3,500 | 3,250 |
| Great Southern Refining Co., Ardis | 2,000 | Shut Down | Shut Down |
| Louisiana Oil Refining Corp., Shreveport, Bossier | 19,000 | 19,000 | 18,800 |
| Shreveport Producing & Refining Co., Shreveport | 5,500 | 4,300 | 4,700 |
| *The Texas Company, Ardis | 7,000 | 6,000 | 6,500 |
| Total | 41,500 | 37,800 | 32,750 |

*Topping.

**REFINING OPERATIONS IN ARKANSAS**
(Plants which have been in operation during the past year.)

| Name and location— | Daily Capacity | Runs July 1 | Runs June 1 |
|---|---|---|---|
| Cross Refining Co., Smackover | 3,500 | 3,250 | 2,000 |
| Home Refining Co., Camden | 500 | 100 | Shut Down |
| Home Oil & Refining Co., Hot Springs | 500 | 50 | 50 |
| Houston Oil Co., Camden | 5,000 | 1,900 | 1,900 |
| Kettle Creek Refining Co., Pearson | 4,000 | 3,600 | 3,600 |
| Lion Oil & Refining Co., El Dorado | 10,000 | 7,800 | 7,800 |
| McMillan, Fehlman & Oliver, El Dorado | 1,500 | 1,100 | 1,100 |
| Ouachita Valley Refining Co., El Dorado | 1,500 | 575 | 1,400 |
| Root Refineries, El Dorado | 2,500 | 2,300 | 2,200 |
| Total | 31,000 | 20,675 | 20,050 |

## Tanker Receipts at Atlantic-Gulf Ports Break Record in June

By N. O. Fanning

NEW YORK, July 2.—June receipts of crude and refined oil by tanker at Atlantic Coast ports are estmated at 19,196,000 bbls., a high monthly record. The daily average of 635,000 bbls. also constitutes a high daily record for any month. The previous high record was in March of this year, of 592,000 bbls. a day. June total receipts compare with 16,183,000 bbls., or 523,000 bbls. daily, in May, and with 16,923,000 bbls., a daily average of 564,000 bbls. in June, 1925. The gain in June, 1926, daily average over May amounts to 112,000 bbls. daily.

This increase was made possible through larger receipts from all principal divisions. The Gulf Coast contributed a record amount, 11,924,000 bbls., or a daily average of 369,000 bbls. The movement of California oil showed a substantial increase, arrivals on the Atlantic from that source totalling 3,158,000 bbls., a daily average of 104,000 bbls. This is the largest total or daily average since October, 1924, when they totaled 3,749,000 bbls., and averaged 120,000 a day.

Imports of petroleum in June amounted to 4,114,000 bbls., a daily average of 135,000 bbls., as compared with 4,316,000 bbls., or 139,000 daily, in May.

The total and daily average receipts of crude and refined oil by water at Atlantic Coast ports for June, 1926, May, 1926, and June, 1926, are shown in the following tables (figures in barrels):

**TOTAL RECEIPTS**

| | June, 1926 | May, 1926 | June, 1925 |
|---|---|---|---|
| Baton Rouge and New Orleans | 2,477,000 | 1,913,000 | 1,772,000 |
| Port Arthur, Sabine and Beaumont | 4,756,000 | 4,414,000 | 4,546,000 |
| Houston, Texas City, Galveston | 4,691,000 | 3,478,000 | 5,079,000 |
| Gulf Coast | 11,924,000 | 9,805,000 | 11,397,000 |
| Pacific Coast | 3,158,000 | 2,062,000 | 1,963,000 |
| Mexico | 3,546,000 | 3,543,000 | 3,438,000 |
| Other Imports | 568,000 | 773,000 | 125,000 |
| Total | 19,196,000 | 16,183,000 | 16,923,000 |

**DAILY AVERAGE RECEIPTS**

| | | | |
|---|---|---|---|
| Baton Rouge and New Orleans | 82,000 | 62,000 | 59,000 |
| Port Arthur, Sabine and Beaumont | 158,000 | 143,000 | 151,000 |
| Houston, Texas City, Galveston | 156,000 | 113,000 | 169,000 |
| Gulf Coast | 396,000 | 318,000 | 379,000 |
| Pacific Coast | 104,000 | 66,000 | 66,000 |
| Mexico | 117,000 | 114,000 | 114,000 |
| Other Imports | 18,000 | 25,000 | 4,000 |
| Total | 635,000 | 523,000 | 563,000 |

Imports during June, 1926, in addition to Mexico, were from Trinidad, Venezuela and Peru. It had been expected shipments would start from Colombia, but up to the present none has been made.

## GEOLOGICAL BULLETINS ON OKLAHOMA COUNTIES

In 1917, the most popular bulletin ever issued by the Oklahoma Geological Survey came from the press. This was Bulletin No. 19, Part 2, a volume of 536 pages entitled "Petroleum and Natural Gas in Oklahoma," describing by counties the oil and gas production in the State. The demand for this bulletin was so great that within a few months the supply was entirely exhausted. For several years now copies have sold for $20 and even as high as $50.

Director Charles N. Gould of the Geological Survey at Norman, has been at work for a year getting this bulletin revised and ready for printing. On account of the meager appropriations made by the legislature, it has been a physical impossibility for the members of the survey staff to revise the bulletin. So he called to his aid some 20 representative geologists of the State, each of whom has been at work preparing manuscripts of the geology and oil resources of one or more counties.

A contract has been let for the printing of the bulletin. It is planned to issue the various county reports as separate pamphlets, and when enough material has accumulated to make about 400 pages, the pages will be bound into a book. It is expected that three of these books will be issued.

The first group of counties to go to press include, Alfalfa, Woods, Harper, Ellis, Woodward and Major, prepared by R. L. Clifton of Enid. This pamphlet should be ready to distribute within two weeks.

The next three pamphlets of this bulletin to be printed will be "Subsurface Geology of Northeastern Oklahoma," by Luther H. White; "Oil and Gas in Creek County," by J. W. Merritt and O. G. McDonald; and "Subsurface of Northeastern Oklahoma," by Frank C. Green. All four of these men are Tulsa geologists. The law requires that these pamphlets be sold, and the price will be 30 cents each.

The survey has recently published several county reports which are of interest to oil men. Those already published are Love, Texas, and Cimarron Counties. Marshall and Beaver are in press and should be out in a few weeks. The price of these bulletins is 50 cents each plus 5 cents postage. The survey has also a bulletin on the Ouachita Mountains which sells for $1, plus 10 cents postage.

**NEW EASTERN SALES OFFICE**

Hills-McCanna Co., Chicago, announce the opening of its eastern sales office in charge of F. R. Glenner, at Room 704, 53 Park Place, New York City. Mr. Glenner will have charge of engineering and sales work on Hills-McCanna nonferrous alloys and products for corrosion resisting service, as well as the force feed lubricators and steam specialties manufactured by the company.

# WHAT IS ACTUALLY GOING FORWARD IN THE TURNER VALLEY FIELD

By Victor Lauriston

CHATHAM, Ont., July 3.—The second Calgary oil boom got nicely under way toward the close of the winter of 1926. It has now been in progress several months. Hence, a dispassionate summing up of the developments since March, of the actual results secured by drilling, and of the present position of affairs in the Turner Valley Field, is perhaps timely.

In many respects—some of them perhaps unfortunate—the Calgary oil boom of 1926 has paralleled the Calgary oil boom of 1914. It has not fully duplicated that tragic exhibition of heedless hope, because it could not. On the one hand, it has more actual performance and better promise behind it; and on the other, it has been marked by more restraint—legal and otherwise.

Yet, in a diminished form, June, 1926, is in many respects a copy of June, 1914. We find once more a few drilling tests, well advanced and resolutely pegging away; a number of other tests just getting started and whose continuance perhaps depends on the success of wells now nearing completion; a great number of "locations" on which work is to be begun this summer; and a tendency to multiply oil incorporations and, perhaps to duplicate needlessly drilling tests.

That too many oil promotions are a hindrance to efficient development of a new field was strikingly illustrated in the Calgary boom of 1914. Then, upwards of 700 companies were incorporated, all making large promises to secure stock subscriptions. The public sunk enough money in that boom to have efficiently tested the Turner Valley Field. But that money was spread so thin over such a multiplicity of companies that few were adequately financed to drill to a conclusive depth. Further, because shares of the companies actually drilling commanded high prices, there was a well-defined tendency on the part of many speculators to put their money into companies that, as the result was to prove, never drilled at all—because the stocks of these were available at a lower price. Thus, the widespread incorporation of boom companies tended to withhold capital from the few which were actually drilling, and hence handicapped the practical development of the field.

In the present boom, the tendency of speculators has been to favor those companies wich are actually drilling, and particularly the older companies whose drilling is well advanced.

The 1926 boom is based entirely upon results secured in a single producing well, the Royalite No. 4 naphtha gusher. What is the actual performance of this well? Dependable figures are fortunately available. The Royalite Oil Co. is a subsidiary of Imperial Oil, Ltd., its development work is a part of the Imperial's careful and methodical development campaign for the thorough testing of the oil possibilities of the Canadian West. This campaign has been in progress, in various parts of Alberta, Saskatchewan and the northwest territories, since 1919; and its history shows that Imperial Oil, Ltd., in its public utterances has always been conservative. It has never minimized failure or exaggerated success. Royalite No. 4 was brought in about October, 1924, and put on a definite producing basis in the spring of 1925. Its production figures are as follows, in barrels:

| 1925 Month | Production |
|---|---|
| June | 14,409 |
| July | 15,308 |
| August | 14,379 |
| September | 12,702 |
| October | 12,729 |
| November | 15,417 |
| December | 15,556 |
| 1926 | |
| January | 19,978 |
| February | 15,621 |
| March | 16,076 |
| April | 16,008 |
| May | 15,734 |

This is, for the year, a production of 183,917 bbls.—a production from this one well considerably in excess of the entire crude oil production of the rest of the Dominion of Canada for the like period.

This is not, however, crude oil. It is high grade gasoline, 73 degrees Baume, condensed from the wet gas under heavy pressure. Royalite No. 4 has a wet gas flow between 17,000,000 and 20,000,000 feet a day. The performance of this well is a remarkable one; nowhere in the world does its duplicate exist.

The question for Calgary speculators is, however, "Does the duplicate of Royalite No. 4 exist in Turner Valley?" That is, as a potentiality. In other words, is Royaltie No. 4 a "freak" well, or is it the beginning of a real field? The drill has still to answer that question.

It is perfectly true that numerous other wells in this field have secured small showings, and in several cases a small commercial production, of light oil; in addition to fairly large flows of wet gas. For lack of immediate markets, wet gas, at the present moment, is a problem rather than an asset.

Royalite No. 4, in drilling, encountered similar wet gas flows at various depths. These were shut off, and drilling continued into the Madison limestone formation. No oil had ever previously been found in this formation; but to the surprise of everybody, including the Royalite people themselves, this amazing gusher was brought in, after drilling about 340 feet into the Madison.

Of the tests now drilling in the Turner Valley Field, two at least have been carried to greater depths in point of distance, but none have been drilled to the same geological horizon. Several wells now drilling have reached the top of the Madison limestone, and are now beginning to drill into that formation.

It is upon these tests that the future of the field depends. If they get a similar production in the limestone, Calgary will have a producing field, and the host of newer companies will be encouraged to go ahead and drill. If, on the contrary, these pioneer companies fail to get production in the limestone, the result will indicate that Royalite No. 4 is a freak, and the boom will quite likely collapse.

The following is a list of the companies actively drilling and showing the comparative depths reached on March 20 and June 20:

| Company— | Depth Mar. 20 | Depth June 20 |
|---|---|---|
| Advance Oil Co. No. 1 | 3,160 | 3,200 |
| Advance Oil Co. No. 2 | .... | 70 |
| Dallas Oil Co. No. 1 | .... | 1,800 |
| Dalhousie Oil Co. No. 1 | 3,543 | 3,546 |
| Dalhousie Oil Co. No. 3 | 3,235 | 3,345 |
| Dalhousie Oil Co. No. 5 | .... | 60 |
| Empress Oils | .... | 1,128 |
| Great West Oil Co. No. 1 | .... | 2,100 |
| Home Oil Co. | .... | 760 |
| Highland Oil Co. | .... | 87 |
| Illinois-Alberta | 3,296 | 3,662 |
| McLeod Oil Co. No. 2 | 3,357 | 3,661 |
| Royalite Oil Co. No. 5 | 2,979 | 3,195 |
| Royalite Oil Co. No. 6 | 2,854 | 2,872 |
| Vulcan Oils No. 1 | 4,140 | 4,860 |

This list excludes a number of wells located, rigging up or just spudding in for some of the newer companies. The latest compilation shows a list of 52 companies that have made locations, and a further list of 8 companies that have done some work on their sites. In addition, British Dominion No. 1 is drilling with no information available as to depth, and Big Chief Oil Co. has reached some depth, but is shut down. There are, in addition, several older wells that have been either finished in the upper horizons or, having been drilled to some depth, are not yet resuming work. The Belgo-Canadian Oil Co. has taken over the old Record Oil Co. well, already drilled to a depth of 4,327 feet, and is getting it in shape to resume.

Interest at the present moment centers, however, in the half dozen or more wells that are in or near the top of the Madison limestone. Vulcan No. 1, a well-managted test financed by citizens of the little town of Vulcan, has, in about a year's drilling, reached the phenomenal depth of 4,860 feet. This test is somewhat of a puzzle. Situated about a half mile from Royalite No. 4, it has not yet reached the top of the limestone, which Royalite No. 4 reached after about 3,400 feet of drilling. It is, however, thought to be near the top of the limestone, and is in good shape for deeper drilling.

On the other hand, McLeod Oil Co. No. 2 at 3,662 feet and Illinois-Alberta No. 1 at 3,661 feet are both, apparently, drilling in the top of the limestone. Many Calgarians undoubtedly are looking for these wells to get early production, but if the experience of Royalite No. 4 holds good, they will still have approximately 400 feet to go before reaching the Royalite sand. With reasonable luck, these tests ought to get conclusive results, one way or the other, any time between the end of June and the end of summer.

Royalite No. 5 is well advanced, and, though it has not reached the Madison limestone, should also be finished this season, and several of the newer tests which have made good progress since March may also be finished this season. So should Vulcan No. 1, which is interesting as a test where the limestone is more deeply buried.

The Dalhousie Oil Co., which has three tests under way, is a subsidiary of the Royalite Oil Co. Dalhousie No. 1 is the famous southern Alberta flowing well, drilled by the old Southern Alberta Oil Co. in 1915, and noteworthy as the first real producing oil well in the field. The Dalhousie Oil Co. was organized some months ago to take over the southern Alberta interests, and is jointly owned by the old Southern Alberta stockholders and the Royalite, which is understood to be financing its operations out of its own profits.

The Dalhousie undertook to deepen two old producing wells, Southern Alberta No. 1 and Alberta Southern No. 1, in order to test the Madison limestone in this particular section of the field, and is also drilling a new well, No. 5. Dalhousie No. 1 is apparently near the top of the limestone, both No. 1 and No. 3 (the old Alberta Southern No. 1) may be among this summer's completions.

With reasonably good luck, at least six wells and at most a dozen may this summer be carried to a conclusive depth in the Madison limestone. These wells will definitely determine whether or not Royalite No. 4 is a freak, and whether or not a real oil field exists. All these tests have got showings of light oil, and considerable flows of wet gas in the formations above the Madison limestone, but it is upon the results actually secured in the Madison limestone itself that the future of the field depends. Some worthwhile work is being done, and a good deal of money is being legitimately spent, in the effort to secure actual results in the way of production. The situation in the Turner Valley at the end of June is one for reasonable hope, but not for overconfidence.

# BUYING AIDS GROUP THREE GASOLINE MARKET

(Continued from Page 28)

in a better position regarding stocks but it is admitted that support is needed from other refining centers to insure a favorable market the remainder of the summer.

Local markets in Oklahoma in the immediate future, however, will depend largely on a continuation of the buying started the past week and in possible reductions in production of refined products, according to market observers. Oklahoma refiners have the start with a firm gasoline price so additional buying at all now would find immediate response in rising markets.

### Heavy Consumption

Reports to Oklahoma refiners Tuesday indicated that the motor consumption in their marketing territory over the Fourth of July was one of the largest in history and necessarily meant a large drain on the supplies of jobbers. The extent to which jobbers had prepared for this demand in previous purchases will have an important bearing also on market trends the next few weeks.

A number of large jobbers were among the buyers the past two weeks, making purchases expected to last several weeks. On the other hand, reports from over the marketing territory indicated that most jobbers, lacking confidence in the situation and facing a possible tank-wagon reduction, preferred to postpone buying until the last minute.

With supplies depleted and with a firmer tone in the market these latter jobbers may be more inclined to make after-holiday purchases to take care of a certain large consumption of gasoline the remainder of July. These are all favorable factors affecting the Group 3 refined market.

This month also is witnessing a check in the steady increase in refinery runs to stills in the Mid-Continent. While runs have not been reduced as much as expected, the decrease being comparatively slight, yet a turning point has been reached and indicates that refiners are not anxious to increase production.

### Gasoline and Naphtha

As a result of developments the past week, all sellers of gasoline were bullish Tuesday with a noticeable trend toward higher quotations. Apparently all strictly U. S. Motor (58-60 437) material under 11 cents was bought up last week as that quotation seemed bottom Tuesday. Lower gravities, including the 450 end point gasolines, also were firmer although there was very little demand for these products. They were quoted from 10½ to 10¾ cents. Naphtha continued firm with 10¾ cents low for good material.

Higher gravity gasolines were not particularly in demand but because many refiners were sold up on these due to recent purchases they readily reflected the strength of the motor fuels. The 60-62 400 material was firm at 11¾ cents and to obtain easily a 64-66 375 gasoline meeting doctor and corrosion tests buyers were forced to pay 12¼ cents.

### Natural Gasolines

Natural gasolines also reflected a slightly improved tone. A little increased demand also was felt. Although no great amount of material has been reported moved to California, the present low prices make it possible to do this. This is the reason of part of the better tone. Grade A Tuesday was worth 8¼ cents but a few manufacturers advanced quotations to 8½ cents. The B grades were quoted at 8 to 8⅛ cents and C at 7¾ cents.

### Kerosene and Distillates

The rapid decline of kerosenes the last month was reflected in two reductions in the tankwagon postings by the Standard Oil Co. of Indiana. This caused additional weakening with the products already lifeless. Since the tankwagon reductions 41-43 water white kerosene has been available at 5¼ cents and the 42-44 water white grade at 6 cents. Most refiners, however, were holding quotations of 41 kerosene at 5½ cents.

There were no developments in the distillates with refiners and buyers deadlocked over the contract situation. Ordinarily this is the time when contracts for next winter's industrial requirements would be made but so far few contracts have been reported. Refiners, however, are sitting tight and are holding prices at 4½ cents on the 38-40 straw grade, expecting a better market as soon as contract making begins.

### Fuel Oil and Gas Oil

Both fuel oils and gas oil were featureless during the week, there being very little change either for the better or worse. The bottom for any grade was $1.15. Some concessions under $1.20 were reported on the 24-26 product but the general market continued at $1.20. The dullness was particularly noticeable in the higher gravities with the 26-30 fuel finding a slow market at $1.22½.

Gas oil was available at 3¾ cents.

### Lubricating Oils

Lubricating oils experienced an unusually active week. The demand for bright stocks was especially strong and manufacturers were having difficulty filling orders. No price changes were reported.

## U. S. LEADS IN MOROCCO

WASHINGTON, July 3.—In crude mineral oil, heavy mineral oil, kerosene, gasoline and naphtha the United States leads in the French Morocco import market.

# New Record of Gasoline Production

## May Output was 24,509,000 Bbls., the First Time the Billion Gallon Mark Was Exceeded. Crude Stocks Off

By G. R. Hopkins
*Petroleum Economist, Department of Commerce, Bureau of Mines*

WASHINGTON, D. C., July 1.—Crude Petroleum: The production of crude petroleum in the United States during May, 1926, as compiled from pipeline runs reported to the Bureau of Mines, Department of Commerce, amounted to 62,278,000 bbls., a daily average of 2,009,000 bbls. This represents an increase in daily average over April, 1926, of .5 per cent but is a decrease from a year ago of 9 per cent. This was the first month of 1926 in which production passed the 2,000,000 a day mark.

Practically all of the increase in production was due to developments in the Panhandle Field of Texas, where oil began to move out in quantity for the first time. Output in California continued its slow decline, although the 600,000-bbl. per day mark was not reached. All of the mountain states registered gains in May, with the exception of Wyoming, where the Salt Creek Field fell below 50,000 bbls. per day for the first time since December, 1924.

Total stocks of crude petroleum east of California registered its twelfth consecutive decline. This decline, which amounted to 2,200,000 bbls., resulted from a material reduction in tank farm stocks since stocks at refineries were increased over 1,250,000 bbls.

Refined Products: Runs to stills of crude petroleum during the month of May amounted to 65,341,000 bbls., of which 3,604,000 bbls. was foreign crude petroleum. This represents a gain in daily average crude runs over the preceding month of 3 per cent.

The record figure for gasoline production established in April, 1926, was broken in May, when 1,029,375,000 gallons, or 24,509,000 bbls., was produced. This was the first time that the 1,000,000,000 gallon mark has ever been reached. Exports of gasoline were maintained at the high level set in the preceding month. Stocks of gasoline on hand May 31, 1926, amounted to 1,802,101,000 gallons, or 42,907,000 bbls., hence withdrawals from stocks during the month amounted to 124,624,000 gallons, or close to 3,000,000 bbls. Domestic demand was 988,677,000 gallons, or 23,540,000 bbls., a record figure, and an increase in daily average over the preceding month of 15 per cent. At the May rate of domestic demand, gasoline stocks on hand represented 51 days' supply as compared to 64 days' supply for the preceding month.

Stocks of kerosene, gas and fuel oils, lubricants and wax increased during May, although production of these commodities was nearly stationary.

The refinery data of this report were compiled from schedules of 332 refineries, of a daily crude oil capacity of 2,629,000 bbls., which operated during May at 80 per cent of capacity.

Supply and Demand: Total supply during May (crude production plus imports) amounted to 68,804,000 bbls. Stocks of all oils on hand May 31 amounted to 528,041,000 bbls., a decrease during the month of 2,595,000 bbls. Total demand was, therefore, 71,399,000 bbls., of which 59,954,000 bbls. was consumed in this country. Domestic crude production exceeded domestic consumption of all oils by 2,324,000 bbls.

**ANALYSIS OF PETROLEUM SUPPLY AND DEMAND**
(Barrels of 42 U. S. Gallons)

| | March, 1926 | April, 1926 | May, 1926 | May, 1925 |
|---|---|---|---|---|
| Supply— | | | | |
| Domestic crude production, light | 49,793,000 | 49,116,000 | 51,219,000 | |
| Heavy | 10,876,000 | 10,872,000 | 11,059,000 | 68,082,000 |
| Imports, crude | 7,216,000 | 5,906,000 | 4,306,000 | 6,484,000 |
| Refined | 1,532,000 | 1,629,000 | 2,220,000 | 1,505,000 |
| Total supply all oils | 69,417,000 | 67,523,000 | 68,804,000 | 76,071,000 |
| Daily average | 2,239,000 | 2,251,000 | 2,219,000 | 2,454,000 |
| Change in stocks all oils | 753,000 | *10,876,000 | *2,595,000 | 10,256,000 |
| Demand: Total demand | 68,664,000 | 78,399,000 | 71,399,000 | 65,815,000 |
| Daily average | 2,215,000 | 2,613,000 | 2,303,000 | 2,123,000 |
| †Exports: Crude | 966,000 | 1,308,000 | 1,842,000 | 1,376,000 |
| Refined | 8,056,000 | 10,433,000 | 9,603,000 | 8,227,000 |
| Domestic demand | 59,642,000 | 66,658,000 | 59,954,000 | 56,212,000 |
| Daily average | 1,924,000 | 2,222,000 | 1,934,000 | 1,813,000 |
| Excess of daily average domestic production over domestic demand | 32,000 | ‡213,000 | 75,000 | 383,000 |
| Stocks: (end of month) crude: | | | | |
| East of California, light | 227,928,000 | 229,148,000 | 224,786,000 | |
| Heavy | 59,782,000 | 57,060,000 | 59,223,000 | 312,085,000 |
| California, light | 43,996,000 | 38,634,000 | 37,179,000 | 44,600,000 |
| §Heavy | 88,482,000 | 85,656,000 | 88,180,000 | 65,481,000 |
| Total crude | 420,188,000 | 410,498,000 | 409,368,000 | 422,166,000 |
| Total refined | 121,324,000 | 120,138,000 | 118,673,000 | 119,285,000 |
| Grand total liquid stocks | 541,512,000 | 530,636,000 | 528,041,000 | 541,451,000 |

*Decreases.
†Includes shipments to noncontiguous territories.
‡Deficiency due to fire loss.
§Includes fuel oil.

**PRODUCTION OF CRUDE PETROLEUM BY FIELDS AND STATES WITH CLASSIFICATION BY GRAVITY**
(Barrels of 42 U. S. Gallons)

| Field— | *April, 1926 Total | *April, 1926 D'ly Av. | May, 1926 Total | May, 1926 D'ly Av. | Jan.-May, 1926 | Jan.-May, 1925 |
|---|---|---|---|---|---|---|
| Appalachian | 2,379,000 | 79,300 | 2,359,000 | 76,097 | 11,415,000 | 11,182,000 |
| Lima-Indiana | 171,000 | 5,700 | 178,000 | 5,742 | 843,000 | 887,000 |
| Illinois-S. W. Ind. | 633,000 | 21,100 | 707,000 | 22,806 | 3,463,000 | 3,509,000 |
| Mid-Continent | 32,874,000 | 1,095,808 | 34,403,000 | 1,109,769 | 160,496,000 | 170,823,000 |
| Gulf Coast | 2,665,000 | 88,833 | 2,707,000 | 87,323 | 13,361,000 | 12,313,000 |
| Rocky Mountain | 3,174,000 | 105,800 | 3,257,000 | 105,065 | 15,772,000 | 13,777,000 |
| California | 14,092,000 | 603,059 | 18,667,000 | 602,166 | 91,819,000 | 91,019,000 |
| United States Total | 59,988,000 | 1,999,600 | 62,278,000 | 2,008,968 | 279,169,000 | 303,510,000 |
| State— | | | | | | |
| Arkansas | 5,405,000 | 180,167 | 5,388,000 | 173,806 | 26,295,000 | 24,931,000 |
| California | 18,092,000 | 603,059 | 18,667,000 | 602,166 | 91,819,000 | 91,019,000 |
| Colorado | 185,000 | 6,167 | 216,000 | 6,968 | 958,000 | 325,000 |
| Illinois | 579,000 | 19,300 | 651,000 | 21,000 | 3,196,000 | 3,239,000 |
| Indiana | 64,000 | 2,133 | 68,000 | 2,193 | 321,000 | 352,000 |
| Southwestern | 54,000 | 1,800 | 56,000 | 1,806 | 267,000 | 270,000 |
| Northeastern | 10,000 | 333 | 12,000 | 387 | 54,000 | 82,000 |
| Kansas | 3,376,000 | 112,533 | 3,525,000 | 113,710 | 16,285,000 | 14,163,000 |
| Kentucky | 516,500 | 17,217 | 522,200 | 16,845 | 2,655,200 | 2,873,900 |
| Louisiana | 1,899,000 | 63,300 | 2,084,000 | 67,226 | 9,018,000 | 8,227,000 |
| Gulf Coast | 335,000 | 11,167 | 298,000 | 9,613 | 1,582,000 | 1,072,000 |
| Rest of State | 1,564,000 | 52,133 | 1,786,000 | 57,613 | 7,436,000 | 7,155,000 |
| Montana | 721,000 | 24,033 | 764,000 | 24,645 | 3,085,000 | 1,225,000 |
| New Mexico | 115,000 | 3,833 | 121,000 | 3,903 | 607,000 | 154,000 |
| New York | 165,000 | 5,500 | 154,000 | 4,968 | 767,000 | 642,000 |
| Ohio | 610,000 | 20,333 | 606,000 | 19,548 | 2,973,000 | 2,901,000 |
| Central and East | 449,000 | 14,966 | 440,000 | 14,193 | 2,184,000 | 2,096,000 |
| Northwestern | 161,000 | 5,367 | 166,000 | 5,355 | 789,000 | 805,000 |
| Oklahoma | 14,492,000 | 483,075 | 14,981,000 | 483,253 | 70,503,000 | 73,180,000 |
| Osage County | 1,968,000 | 65,600 | 2,019,000 | 65,129 | 9,967,000 | 12,185,000 |
| Rest of State | 12,524,000 | 417,475 | 12,962,000 | 418,124 | 60,536,000 | 60,995,000 |
| Pennsylvania | 748,000 | 24,933 | 747,000 | 24,097 | 3,509,000 | 3,183,000 |
| Tennessee | 4,500 | 150 | 3,800 | 123 | 18,800 | 4,100 |
| Texas | 10,367,000 | 345,566 | 11,132,000 | 359,097 | 51,756,000 | 62,635,000 |
| Gulf Coast | 2,330,000 | 77,666 | 2,409,000 | 77,710 | 11,779,000 | 11,241,000 |
| Rest of State | 8,037,000 | 267,900 | 8,723,000 | 281,387 | 39,977,000 | 51,394,000 |
| West Virginia | 496,000 | 16,534 | 492,000 | 15,871 | 2,381,000 | 2,383,000 |
| Wyoming | 2,153,000 | 71,767 | 2,156,000 | 69,549 | 11,122,000 | 12,073,000 |
| Salt Creek | 1,562,000 | 52,067 | 1,535,000 | 49,516 | 8,106,000 | 8,835,000 |
| Rest of State | 591,000 | 19,700 | 621,000 | 20,033 | 3,016,000 | 3,238,000 |
| Classification by Gravity (approx.)— | | | | | | |
| Light crude | 49,116,000 | 1,637,200 | 51,219,000 | 1,652,226 | 243,696,000 | 226,303,000 |
| Heavy crude | 10,872,000 | 362,400 | 11,059,000 | 356,742 | 53,473,000 | 77,207,000 |

*Revised.

**STOCKS OF CRUDE PETROLEUM HELD IN THE UNITED STATES (Barrels)**

| | April 30, *1926 | May 31, 1926 | May 31, 1925 |
|---|---|---|---|
| At refineries (and in coastwise transit thereto.) Reported by location of storage: | | | |
| East Coast: Domestic | 6,456,000 | 7,134,000 | 8,200,000 |
| Foreign | 3,229,000 | 2,704,000 | 1,859,000 |
| Appalachian | 1,624,000 | 1,653,000 | 1,165,000 |
| Indiana, Illinois, etc. | 1,727,000 | 1,749,000 | 1,649,000 |
| Oklahoma, Kansas, etc. | 4,072,000 | 3,825,000 | 4,975,000 |
| Texas: Inland | 1,025,000 | 1,227,000 | 1,139,000 |
| Gulf Coast: Domestic | 6,642,000 | 6,501,000 | 4,821,000 |
| Foreign | 369,000 | 244,000 | 726,000 |
| Arkansas and inland Louisiana | 631,000 | 762,000 | 598,000 |
| Louisiana, Gulf Coast: Domestic | 5,102,000 | 6,291,000 | 4,273,000 |
| Foreign | 1,732,000 | 1,807,000 | 1,730,000 |
| Rocky Mountain | 1,571,000 | 1,562,000 | 1,380,000 |
| Total east of California | 34,180,000 | 35,459,000 | 32,415,000 |
| Elsewhere Than at Refineries— | | | |
| Domestic—Reported by field of origin: | | | |
| Appalachian: New York, Pennsylvania, West Virginia, Eastern and Central Ohio (Gross) | 7,192,000 | 7,129,000 | 7,212,000 |
| (Net) | 6,893,000 | 6,824,000 | 6,952,000 |
| Kentucky (Gross) | 1,887,000 | 1,890,000 | 2,202,000 |
| (Net) | 1,778,000 | 1,779,000 | 2,085,000 |
| Lima-Indiana (Gross) | 1,091,000 | 1,053,000 | 1,422,000 |
| (Net) | 889,000 | 851,000 | 1,209,000 |
| Illinois-S. W. Indiana (Gross) | 12,250,000 | 12,518,000 | 11,551,000 |
| (Net) | 11,771,000 | 12,039,000 | 11,060,000 |
| Mid-Continent: Oklahoma, Kansas, Central North, and West Texas (Gross) | 154,097,000 | 150,725,000 | 182,365,000 |
| (Net) | 141,401,000 | 138,114,000 | 170,911,000 |
| Northern Louisiana and Arkansas (Gross) | 44,717,000 | 43,945,000 | 39,108,000 |
| (Net) | 42,540,000 | 41,725,000 | 37,207,000 |
| Gulf Coast (Gross) | 16,606,000 | 16,710,000 | 20,727,000 |
| (Net) | 16,266,000 | 16,333,000 | 20,325,000 |
| Rocky Mountain (Gross) | 30,167,000 | 30,557,000 | 28,930,000 |
| (Net) | 30,122,000 | 30,511,000 | 28,895,000 |
| Total pipeline and tank farm stocks east of California (Gross) | 268,007,000 | 264,527,000 | 293,517,000 |
| (Net) | 251,600,000 | 248,176,000 | 278,644,000 |
| Foreign crude petroleum on Atlantic Coast | 56,000 | 42,000 | 150,000 |
| Foreign crude petroleum on Gulf Coast | 312,000 | 332,000 | 876,000 |
| Total | 368,000 | 374,000 | 1,026,000 |
| Total refinery, pipeline and tank farm stocks domestic and foreign crude petroleum east of California | 286,208,000 | 284,009,000 | 312,085,000 |
| Classification by Gravity (Approx.)— | | | |
| East of California: | | | |
| Light crude (24° and above) | 229,148,000 | 224,786,000 | |
| Heavy crude (below 24°) | 57,060,000 | 59,223,000 | |
| California: | | | |
| Light | 38,634,000 | 37,179,000 | 44,600,000 |
| Heavy (including fuel) | 85,656,000 | 88,180,000 | 65,481,000 |

*Revised.

**IMPORTS AND EXPORTS OF CRUDE PETROLEUM (Barrels)**
(From Bureau of Foreign and Domestic Commerce)

| | April, 1926 Total | April, 1926 D'ly Av. | May, 1926 Total | May, 1926 D'ly Av. | Jan.-May, 1926 | Jan.-May, 1925 |
|---|---|---|---|---|---|---|
| Imports | 5,906,000 | 196,867 | 4,306,000 | 138,903 | 25,859,000 | 30,879,000 |
| From Mexico | 4,406,000 | 146,867 | 3,344,000 | 107,871 | 19,491,000 | 28,176,000 |
| From Venezuela | 1,111,000 | 37,033 | 794,000 | 25,613 | 4,518,000 | 1,597,000 |
| From other countries | 389,000 | 12,967 | 168,000 | 5,419 | 1,850,000 | 1,106,000 |
| Exports | 1,308,000 | 43,600 | 1,842,000 | 59,419 | 6,348,000 | 5,502,000 |
| Domestic crude oil: | | | | | | |
| To Canada | 971,000 | 32,367 | 1,384,000 | 44,645 | 5,015,000 | 2,233,000 |
| To other countries | 337,000 | 11,233 | 458,000 | 14,744 | 1,332,000 | 2,189,000 |
| Foreign crude oil | | | | | 1,000 | 80,000 |

Note:—No crude shipments to territories during May, 1926.

**INDICATED DELIVERIES OF CRUDE PETROLEUM, EXCLUSIVE OF CALIFORNIA GRADES, TO DOMESTIC CONSUMERS (Barrels)**

(Production plus imports minus exports plus stocks, exclusive of consumers' stocks, at beginning of month minus stocks at end of month.)

| | *April, 1926 Total | *April, 1926 D'ly Av. | May, 1926 Total | May, 1926 D'ly Av. | Jan.-May, 1926 | Jan. May 1925 |
|---|---|---|---|---|---|---|
| Domestic petroleum by field of origin— | | | | | | |
| Appalachian | 2,163,000 | 72,100 | 2,427,000 | 78,290 | 11,304,000 | 11,431,000 |
| Lima-Indiana | 164,000 | 5,466 | 216,000 | 6,968 | 963,000 | 899,000 |
| Illinois-S. W. Indiana | 330,000 | 11,000 | 439,000 | 14,161 | 2,006,000 | 3,319,000 |
| Mid-Continent | 36,650,000 | 1,221,667 | 38,505,000 | 1,242,097 | 177,093,000 | 173,263,000 |
| Gulf Coast | 3,660,000 | 122,000 | 2,640,000 | 85,161 | 16,291,000 | 12,188,000 |
| Rocky Mountain | 2,915,000 | 97,167 | 2,868,000 | 92,516 | 14,241,000 | 13,554,000 |
| Deliveries and Exports | 45,882,000 | 1,529,400 | 47,095,000 | 1,519,193 | 221,898,000 | 214,654,000 |
| Deliveries | 45,148,000 | 1,504,933 | 46,057,000 | 1,485,709 | 217,722,000 | 210,276,000 |
| Foreign petroleum | 5,952,000 | 198,400 | 4,300,000 | 138,710 | 25,891,000 | 30,507,000 |
| Deliveries of domestic and foreign petroleum | 51,100,000 | 1,703,333 | 50,357,000 | 1,624,419 | 243,613,000 | 240,783,000 |

*Revised.

***NUMBER OF PRODUCING OIL WELLS COMPLETED**

| April, 1926 | May, 1926 | Jan.-May, 1926 | Jan.-May, 1925 |
|---|---|---|---|
| 1,417 | 1,506 | 6,521 | 6,200 |

*For States east of California, from The Oil and Gas Journal; for California, from the American Petroleum Institute.

### SHIPMENTS OF CALIFORNIA OIL THROUGH PANAMA CANAL TO EASTERN PORTS IN UNITED STATES

(From Panama Canal Record)

| | Apr., 1926 | May, 1926 | Jan.-May, 1926 | Jan.-May, 1925 |
|---|---|---|---|---|
| Crude oil: Long tons (2,240 lbs.) | 218,000 | 164,000 | 860,000 | 1,071,000 |
| Barrels (Approx.) | 1,568,000 | 1,179,000 | 6,183,000 | 7,713,000 |
| Refined products: Barrels (Approx.) | 1,309,000 | 1,811,000 | 7,465,000 | 4,339,000 |
| Fuel oil | 145,000 | 283,000 | 1,621,000 | 64,000 |
| Gas oil | 478,000 | 696,000 | 2,046,000 | 274,000 |
| Gasoline | 452,000 | 832,000 | 3,264,000 | 3,099,000 |
| Lubricants | 68,000 | ..... | 206,000 | 200,000 |
| Tops | 166,000 | ..... | 328,000 | 702,000 |

### COMPARATIVE ANALYSIS OF MAJOR REFINED PRODUCTS, MAY, 1926, AND PRECEDING MONTHS

| | Production | *Imports | *Exports | Stocks end of period | Domestic Demand |
|---|---|---|---|---|---|
| Gasoline (gallons): | | | | | |
| March | 969,543,000 | 21,701,000 | 133,829,000 | 1,936,336,000 | 779,738,000 |
| April | 987,633,000 | 19,057,000 | 184,891,000 | 1,926,725,000 | 831,410,000 |
| May | 1,029,375,000 | 24,902,000 | 190,224,000 | 1,802,101,000 | 988,677,000 |
| January-May | 4,798,980,000 | 98,911,000 | 788,946,000 | 1,802,101,000 | 3,939,605,000 |
| Motor Fuels (gallons): | | | | | |
| March | 1,007,900,000 | ..... | ..... | ..... | ..... |
| April | 1,027,300,000 | ..... | ..... | ..... | ..... |
| May | 1,076,000,000 | ..... | ..... | ..... | ..... |
| January-May | 5,002,800,000 | ..... | ..... | ..... | ..... |
| Kerosene (gallons): | | | | | |
| March | 230,378,000 | 50,000 | 74,950,000 | 293,907,000 | 149,565,000 |
| April | 210,488,000 | 22,000 | 68,973,000 | 294,603,000 | 140,841,000 |
| May | 218,115,000 | 1,482,000 | 68,156,000 | 309,861,000 | 136,183,000 |
| January-May | 1,071,734,000 | 1,603,000 | 356,907,000 | 309,861,000 | 705,634,000 |
| Lubricants (gallons): | | | | | |
| March | 110,182,000 | 165,000 | 31,075,000 | 320,883,000 | 90,565,000 |
| April | 112,131,000 | 131,000 | 38,355,000 | 309,476,000 | 85,314,000 |
| May | 119,948,000 | 8,663,000 | 30,025,000 | 321,544,000 | 86,518,000 |
| January-May | 555,409,000 | 9,105,000 | 163,128,000 | 321,544,000 | 384,471,000 |
| Wax (pounds): | | | | | |
| March | 55,329,000 | 456,000 | 25,005,000 | 130,341,000 | 24,403,000 |
| April | 54,985,000 | 647,000 | 31,560,000 | 136,084,000 | 18,329,000 |
| May | 56,050,000 | 213,000 | 23,968,000 | 149,396,000 | 18,983,000 |
| January-May | 268,916,000 | 2,615,000 | 138,303,000 | 149,396,000 | 100,223,000 |
| Gas and Fuel Oils (gallons): | | | | | |
| March | 1,244,967,000 | 39,786,000 | 98,479,000 | †851,234,000 | ..... |
| April | 1,210,724,000 | 48,197,000 | 145,963,000 | †830,481,000 | ..... |
| May | 1,273,467,000 | 57,473,000 | 114,938,000 | †875,333,000 | ..... |
| January-May | 6,097,381,000 | 248,271,000 | 645,073,000 | †875,333,000 | ..... |
| May, 1925, for comparison: | | | | | |
| Gasoline, (gallons) | 923,857,000 | 16,945,000 | 99,192,000 | 1,699,919,000 | 859,283,000 |
| Kerosene (gallons) | 202,039,000 | 31,000 | 56,614,000 | 451,388,000 | 127,328,000 |
| Lubricants (gallons) | 109,573,000 | 446,000 | 38,504,000 | 292,123,000 | 69,450,000 |
| Wax (pounds) | 50,269,000 | 3,779,000 | 22,254,000 | 108,822,000 | 25,282,000 |
| Gas and Fuel Oils (gallons) | 1,278,538,000 | 45,778,000 | 151,234,000 | 946,782,000 | ..... |

*From Bureau of Foreign and Domestic Commerce. Exports, except for wax, include shipments to Alaska, Hawaii, and Porto Rico.
†These stocks for east of California only.

### RUNS TO STILLS AND OUTPUT OF REFINERIES IN UNITED STATES, MAY, 1926

| Oils Run to Stills (Barrels) | Crude Oil—Domestic | Crude Oil—Foreign | Unfinished Oils | Nat. Gas Gasoline | Total oil run to stills |
|---|---|---|---|---|---|
| East Coast | 8,051,000 | 2,226,000 | 1,124,000 | 178,000 | 11,579,000 |
| Appalachian | 2,342,000 | ..... | 164,000 | 26,000 | 2,532,000 |
| Indiana, Illinois, etc. | 6,194,000 | ..... | 277,000 | 72,000 | 6,543,000 |
| Oklahoma, Kansas, etc. | 8,651,000 | ..... | 194,000 | 266,000 | 9,111,000 |
| Texas | 12,144,000 | 219,000 | 670,000 | 342,000 | 13,375,000 |
| Louisiana and Arkansas | 4,688,000 | 1,159,000 | 270,000 | 57,000 | 6,174,000 |
| Rocky Mountain | 2,434,000 | ..... | 624,000 | 83,000 | 3,141,000 |
| California | 17,233,000 | ..... | *629,000 | 385,000 | 18,247,000 |
| U. S. Total | 61,737,000 | 3,604,000 | 3,952,000 | 1,409,000 | 70,702,000 |
| Daily average, May, 1926 | 1,992,000 | 116,300 | 127,000 | 45,400 | 2,280,700 |
| Daily average April, 1926 | 1,923,000 | 119,700 | 130,000 | 52,500 | 2,225,200 |
| Texas Gulf Coast | 9,158,000 | 219,000 | 662,000 | 305,000 | 10,344,000 |
| Louisiana Gulf Coast | 3,078,000 | 1,159,000 | 179,000 | 1,000 | 4,417,000 |

| Output and Losses— | Gasoline (Gallons) | Kerosene (Gallons) | Gas and Fuel Oils (Gals.) | Lubricants (Gallons) | Wax (Pounds) |
|---|---|---|---|---|---|
| East Coast | 153,398,000 | 38,047,000 | 193,096,000 | 33,039,000 | 22,280,000 |
| Appalachian | 42,276,000 | 15,495,000 | 21,292,000 | 17,650,000 | 8,783,000 |
| Indiana, Illinois, etc. | 139,814,000 | 19,379,000 | 75,475,000 | 12,592,000 | 6,590,000 |
| Oklahoma, Kansas, etc. | 185,379,000 | 38,704,000 | 122,712,000 | 10,046,000 | 4,314,000 |
| Texas | 203,342,000 | 53,681,000 | 213,454,000 | 30,825,000 | 4,857,000 |
| Louisiana and Arkansas | 61,083,000 | 24,159,000 | 118,832,000 | 4,295,000 | 5,501,000 |
| Rocky Mountain | 59,829,000 | 8,154,000 | 27,882,000 | 2,345,000 | 3,725,000 |
| California | 184,254,000 | 20,496,000 | 500,724,000 | 9,156,000 | ..... |
| U. S. Total | 1,029,375,000 | 218,115,000 | 1,273,467,000 | 119,948,000 | 56,050,000 |
| Daily average May, 1926 | 33,206,000 | 7,036,000 | 41,080,000 | 3,869,000 | 1,808,000 |
| Daily average April, 1926 | 32,921,000 | 7,016,000 | 40,357,000 | 3,738,000 | 1,833,000 |
| Texas Gulf Coast | 155,906,000 | 43,541,000 | 161,819,000 | 29,869,000 | 4,628,000 |
| Louisiana Gulf Coast | 46,968,000 | 21,996,000 | 68,803,000 | 4,250,000 | 5,501,000 |

| Output and Losses— | Coke (Tons) | Asphalt (Tons) | Other Fin'd. Prod. (Gals.) | Unfin'shed Prod. (Gals.) | Losses (Barrels) |
|---|---|---|---|---|---|
| East Coast | 16,137 | 93,746 | 9,816,000 | 7,907,000 | 532,000 |
| Appalachian | 1,811 | ..... | 912,000 | 1,157,000 | 137,000 |
| Indiana, Illinois, etc. | 18,638 | 17,533 | 6,639,000 | 2,102,000 | 213,000 |
| Oklahoma, Kansas, etc. | 9,939 | 733 | 1,390,000 | 5,722,000 | 364,000 |
| Texas | 11,584 | 26,995 | 195,000 | 25,020,000 | 620,000 |
| Louisiana and Arkansas | 13,002 | 55,082 | 6,661,000 | 23,325,000 | 116,000 |
| Rocky Mountain | 8,871 | 2,507 | 1,322,000 | 27,924,000 | 21,000 |
| California | ..... | 51,794 | 5,796,000 | *22,596,000 | 267,000 |
| U. S. Total | 79,982 | 248,390 | 32,731,000 | 115,753,000 | 2,270,000 |
| Daily average May, 1926 | 2,580 | 8,013 | 1,056,000 | 3,734,000 | 73,000 |
| Daily average April, 1926 | 2,534 | 6,620 | 801,000 | 3,475,000 | 66,100 |
| Texas Gulf Coast | 9,896 | 26,995 | 58,000 | 11,481,000 | 547,000 |
| Louisiana Gulf Coast | 12,265 | 53,591 | 6,158,000 | 19,076,000 | 64,000 |

*Includes 137,000 bbls. net tops rerun.

### GASOLINE PRODUCTION BY THE VARIOUS METHODS—MAY, 1926

(Gallons)

| | Straight Run | Pct. | Cracked | Pct. | Natural-Gas Gasoline | Pct. | Total |
|---|---|---|---|---|---|---|---|
| East Coast | 80,829,000 | 53 | 65,093,000 | 42 | 7,476,000 | 5 | 153,398,000 |
| Appalachian | 29,110,000 | 69 | 12,074,000 | 28 | 1,092,000 | 3 | 42,276,000 |
| Indiana, Illinois, etc. | 83,192,000 | 60 | 53,598,000 | 38 | 3,024,000 | 2 | 139,814,000 |
| Oklahoma, Kansas, etc. | 125,115,000 | 68 | 48,092,000 | 26 | 11,172,000 | 6 | 185,379,000 |
| Texas | 108,353,000 | 53 | 80,625,000 | 40 | 14,364,000 | 7 | 203,342,000 |
| Louisiana and Arkansas | 37,123,000 | 61 | 21,566,000 | 35 | 2,394,000 | 4 | 61,083,000 |
| Rocky Mountain | 29,947,000 | 50 | 26,396,000 | 44 | 3,486,000 | 6 | 59,829,000 |
| California | 167,832,000 | 91 | 252,000 | .. | 16,170,000 | 9 | 184,254,000 |
| Total U. S. | 661,501,000 | 64 | 308,696,000 | 30 | 59,178,000 | 6 | 1,029,375,000 |
| Total U. S. 4/26 | 633,587,000 | 64 | 287,896,000 | 29 | 66,150,000 | 7 | 987,633,000 |
| Texas and Louisiana Gulf Coasts* | 98,854,000 | 49 | 91,168,000 | 45 | 12,852,000 | 6 | 202,874,000 |

*Included above under Texas, Louisiana and Arkansas.

### STOCKS HELD BY THE REFINING COMPANIES IN THE UNITED STATES MAY 31, 1926

| | Gasoline (Gals.) | Kerosene (Gals.) | Gas and Fuel Oils (Gals.) | Lubricants (Gals.) |
|---|---|---|---|---|
| East Coast | 368,723,000 | 66,372,000 | 206,585,000 | 115,066,000 |
| Appalachian | 38,076,000 | 7,040,000 | 21,528,000 | 37,742,000 |
| Indiana, Illinois, etc. | 255,101,000 | 22,716,000 | 40,455,000 | 32,404,000 |
| Oklahoma, Kansas, etc. | 153,238,000 | 16,825,000 | 153,449,000 | 19,443,000 |
| Texas | 200,405,000 | 71,676,000 | 289,349,000 | 69,538,000 |
| Louisiana and Arkansas | 147,107,000 | 43,705,000 | 108,997,000 | 4,734,000 |
| Rocky Mountain | 201,349,000 | 6,809,000 | 54,970,000 | 7,673,000 |
| California | 438,102,000 | 74,718,000 | ..... | 34,944,000 |
| Total U. S. | 1,802,101,000 | 309,861,000 | 875,333,000 | 321,544,000 |
| Total U. S. 4/30/26 | 1,926,725,000 | 294,603,000 | 830,481,000 | 309,476,000 |
| Texas Gulf Coast | 176,912,000 | 63,564,000 | 248,161,000 | 68,131,000 |
| Louisiana Gulf Coast | 143,576,000 | 43,170,000 | 77,035,000 | 4,721,000 |

| | Wax (Lbs.) | Coke (Tons) | Asphalt (Tons) | Other Fin. Prod. (Gals.) | Unfinished Oils (Bbls.) |
|---|---|---|---|---|---|
| East Coast | 71,018,000 | 11,022 | 124,569 | 9,130,000 | 7,735,000 |
| Appalachian | 16,871,000 | 509 | 39 | 1,916,000 | 990,000 |
| Indiana, Illinois, etc. | 29,163,000 | 13,084 | 18,514 | 21,325,000 | 3,226,000 |
| Oklahoma, Kansas, etc. | 3,288,000 | 23,703 | 1,047 | 3,751,000 | 2,191,000 |
| Texas | 8,830,000 | 59,971 | 9,008 | 187,000 | 7,453,000 |
| Louisiana and Arkansas | 11,790,000 | 61,801 | 29,908 | 1,845,000 | 2,761,000 |
| Rocky Mountain | 8,398,000 | 63,935 | 9,091 | 462,000 | 1,786,000 |
| California | 38,000 | ..... | 37,643 | 12,222,000 | *12,539,000 |
| Total U. S. | 149,396,000 | 234,025 | 229,819 | 50,838,000 | 38,681,000 |
| Total U. S. 4/30/26 | 136,084,000 | 216,163 | 239,953 | 47,800,000 | †38,969,000 |
| Texas Gulf Coast | 8,653,000 | 56,023 | 9,008 | 152,000 | 6,959,000 |
| Louisiana Gulf Coast | 11,790,000 | 59,511 | 29,575 | 1,659,000 | 2,580,000 |

*Includes 4,740,000 bbls. tops in storage.
†Revised due to addition to 184,000 bbls. to California.

### NATURAL GAS GASOLINE, MAY, 1926

The production of natural gas gasoline in the United States during May, 1926, amounted to 110,286,000 gallons, a daily average of 3,558,000 gallons. While this represents a greater total than for the preceding month, it is a decrease of nearly 3 per cent in daily average. The eastern states were responsible for this decline, the output of these states falling off materially as demands for gas for heating purposes fell off. Stocks of raw natural gas gasoline at the plants May 31, 1926, amounted to 24,709,000 gallons, an increase over April of over 3,400,000 gallons. Blending at refineries of natural gas gasoline declined in May, which probably accounts for this increase in stocks.

| | Natural-Gas Gasoline | | Blended Motor Fuel | | |
|---|---|---|---|---|---|
| | Production (Net)* | Stocks End of Month | Nat.-Gas Gasoline Used in Blends | Naphtha or Other Oil Used in Blends | Stocks End of Month |
| Appalachian | 6,580,000 | 2,878,000 | 184,000 | 255,000 | 424,000 |
| Indiana, Illinois, etc. | 1,296,000 | 296,000 | 70,000 | 26,000 | 30,000 |
| Oklahoma, Kansas, etc. | 42,640,000 | 13,987,000 | 2,594,000 | 6,379,000 | 2,672,000 |
| Texas | 18,366,000 | 4,970,000 | 345,000 | 1,052,000 | 671,000 |
| Louisiana and Ark. | 6,454,000 | 1,034,000 | 116,000 | 914,000 | 302,000 |
| Rocky Mountain | 3,784,000 | 410,000 | 107,000 | 233,000 | 190,000 |
| Total east of California | 79,120,000 | 23,575,000 | 3,416,000 | 8,859,000 | 4,389,000 |
| California | 31,166,000 | 1,134,000 | Not available | | ..... |
| Total United States | 110,286,000 | 24,709,000 | 3,416,000 | 8,859,000 | 4,389,000 |
| Daily average | 3,558,000 | ..... | ..... | ..... | ..... |

1 per cent estimated.

The indicated output of motor fuel in the United States from the above and other sources may be expressed by the following table:

| | April | May |
|---|---|---|
| Total gasoline produced at refineries | 987,600,000 | 1,029,400,000 |
| (a) Includes natural-gas gasoline blended at refineries: | | |
| April | 66,200,000 | |
| May | 59,200,000 | |
| (b) Includes natural-gas gasoline run through refinery pipelines: | | |
| April | 10,900,000 | |
| May | 11,900,000 | |
| Gasoline production exclusive of (a) and (b) | 910,500,000 | 958,300,000 |
| Natural-gas gasoline produced at plants | 109,600,000 | 110,300,000 |
| Benzol production* | 7,200,000 | 7,400,000 |
| Total motor fuel produced | 1,027,300,000 | 1,076,000,000 |
| Daily average | 34,240,000 | 34,710,000 |

*Estimated with production of by-product coke as a basis.

### CRUDE OIL PRICES

(Continued from Page 127)

| | |
|---|---|
| Grass Creek, heavy | .90 |
| Elk Basin | 2.40 |
| Lance Creek | 2.40 |
| Rex Lake | 1.45 |
| Osage | 2.40 |
| Lost Solider (contract) | 1.35 |
| Greybull-Torchlight | 2.15 |
| Hamilton Dome | 1.35 |
| Cat Creek (Mont.) | 2.40 |
| Sunburst (Mont.) (May 6) | 1.05 |
| Florence (Colo.) | 1.60 |
| Artesia | 1.95 |
| Hogback (N. M.) | 2.45 |

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

**EASTERN STATES**

**Joseph Seep Purchasing Agency**

(Effective March 8)

| | |
|---|---|
| Penna Grade Oil in New York Transit Lines (New York) | $3.65 |
| Bradford District Oil in National Transit Lines (Pennsylvania) | 3.65 |
| Penna Grade Oil in National Transit Lines (Pennsylvania) | 3.55 |
| Penna Grade Oil in Southwest Pa. Line Lines (West Virginia) | 3.55 |
| Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania) | 3.50 |
| Penna Grade Oil in Buckeye Pipe Line Lines (Ohio) | 3.30 |
| Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 17) | 2.40 |
| Corning Grade Oil in Buckeye Pipe Line Lines (Ohio) (May 22) | 2.55 |
| Somerset Medium Oil in Cumberland Pipe Line Lines (Kentucky) (May 17) | 2.50 |
| Somerset Light Oil in Cumberland Pipe Lines (Kentucky) (May 17) | 2.65 |
| Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (May 19) | 1.25 |
| Gaines (Pennsylvania) (Apr. 27) | 3.10 |
| Keister (Pennsylvania) (Feb. 15) | 2.45 |

**MIDDLE WESTERN STATES**

**Ohio Oil Co.**

(Effective May 17)

| | |
|---|---|
| Lima | 2.48 |
| Wooster | 2.55 |
| Illinois | 2.37 |
| Indiana | 2.25 |
| Princeton | 2.37 |
| Plymouth | 1.90 |
| Waterloo | 1.35 |
| *Western Kentucky, 32.9° and below (May 18) | 2.10 |
| 33° to 35.9° (May 18) | 2.20 |
| 36° to 38.9° (May 18) | 2.30 |
| 39° and above (May 18) | 2.40 |
| †Cumberland, Barren and Monroe Counties, Ky. (May 17) | 2.65 |
| **Oil in lines of Stoll Oil Refg. Co. in Oil City, Ky. | 2.65 |
| **Oil in lines of Stoll Oil Refg. Co. in Tinsley Bottom, Tenn. | 2.46 |
| §Oil Springs (Canada) (May 18) | 2.95 |
| §Petrolia (Canada) (May 18) | 2.88 |

*Posted by Indian Refining Co.
**Posted by Stoll Oil Refg. Co.
†Posted by Paragon Development Co.
§Posted by Imperial Oil Co., Ltd.

**MEXICO**

(Effective May 13)

| | |
|---|---|
| *Tuxpam light (f.o.b. Mex. ports) | $1.35 |
| §Panuco heavy (f.o.b. Mex. Ports) | 1.15 |
| Tuxpam (New York) | 2.15 |
| Panuco (New York) | 1.80 |

*Plus 32.328c tax. §17.631c tax.

### OKLAHOMA STATE ROYALTY

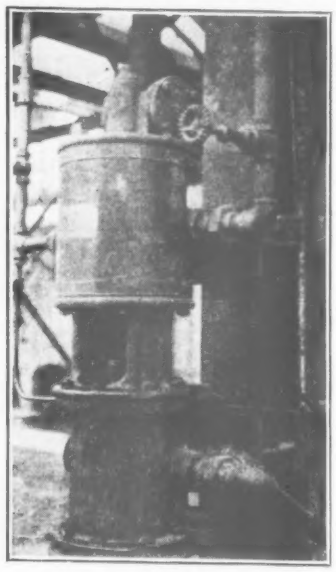
OKLAHOMA CITY, Okla., July 3.—Collections of oil and gas royalties, rentals and bonuses made by the state land office during the first five months of the calendar year amounted to a little over $500,000. January collections totalled $140,048, of which $97,913 was in oil royalty and $36,175 in bonuses; February, $64,653, of which $52.102 was in oil royalty; March, $138.744, of which $114,480 was in oil royalty and $13,115 on bonuses; April, $74,379, of which about $24,000 was in oil royalty; and May, $122,779, of which $72,502 was in oil royalty and $43,719 on bonuses.

# USE AIR BRAKE TYPE OF AIR COMPRESSOR IN CALIFORNIA PLANT

LOS ANGELES, Calif., July 3.—The constant and unvarying supply of compressed air is often a problem of no little moment among refiners and manufacturers of natural gasoline. Tho those engaged in the operation of plants of either type, the importance of a reliable air unit is obvious. The industry spends thousands of dollars annually in the purchase and maintenace of compressors for use in the various departments of the natural gasoline and crude refining plants. Certain of the larger refineries have solved this problem by the installation and maintenance of large centrally located air compressor units or plants, which involve the expenditure of quite a neat sum of money, and which are usually attended by individual operators. On the small refining plant, however, and the compact natural gasoline plant, the quantity of compressed air required and the needs in general of the plant do not usually justify the installation of such units.

While visiting the plants on the West Coast, the writer has repeatedly noticed the tendency of operators toward the employment of small, compact, easily handled air brake or locomotive type air compressors. Two compressors of this type—Westinghouse locomotive or air brake type, one being a relief unit, maintain a constant supply of compressed air at 180 pounds pressure per square inch for use in all departments of the absorption plant of the West Coast Refining Co. at Richfield, Calif. They have been in uinterrupted service for 11 months and require almost no attention.

The accompanying figure shows a similar installation of the air brake type compressor which was installed some months ago at the crude refining plant of the Western Oil & Refining Co. at Wilmington, Calif. This machine is called upon to deliver air at 30 pounds pressure per square inch to several automatic temperature control instruments located about the plant. It is also acting as auxiliary compressor to the major companies on the yard, and delivering air at higher pres-



sure when necessary. These machines are automatic in operation, insofar as they maintain a certain pressure when once set—either building up to that pressure or cutting out when the set pressure is reached.

## ANGLO-PERSIAN HAS GERMAN AGREEMENT

Indications that Anglo-Persian Oil Co., Ltd., is taking an active interest in the German oil industry are confirmed by announcement of the managing director of the Deutsche Erdoel Co. at a recent meeting that negotiations had resulted in the German company signing a delivery agreement running for several years with the Anglo-Persian, according to the London Investors' Chronicle. The German company holds an important position in the oil industry in central Europe, owning among other things, four complete refineries whose aggregate capacity was 80,000 tons (about 640,000 bbls.) per annum about a year ago and has since been increased. It also holds a controlling interest in nine petroleum refineries in Germany and has a number of plants for manufacturing mineral oils from lignite. Distribution is carried on through subsidiary companies which together own a large number of storage tanks, filling stations, etc., all over central Europe.


# Built Without Compromise Endorsed by Thousands—*Try One!*

No compromise in the HOUGH EXTENSION LOWER VALVE—designed properly, made of carefully selected and specified materials and finely finished. And then field-tested!

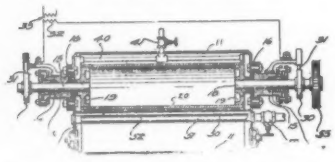
Thousands of oil men enthusiastically endorse this Valve. Briefly, it is fitted with oversize Steelex Ball and Seat—all steel; no leathers to cut out; screws into lower coupling and fits any make of working barrel—tapped for gas anchor—permits of slower pumping stroke.

Try one—and you'll buy 'em by the dozen—your dealer carries the HOUGH EXTENSION LOWER VALVE in stock—insist on the HOUGH.

**The Charles N. Hough Mfg. Company**
**Franklin, Pennsylvania**


# Recent Patents

1,586,132. Apparatus for Refining Oil. Milon J. Trumble, Los Angeles, Calif. Filed September 2, 1924. Serial No. 735,356. 3 Claims. (Cl. 196—121.)

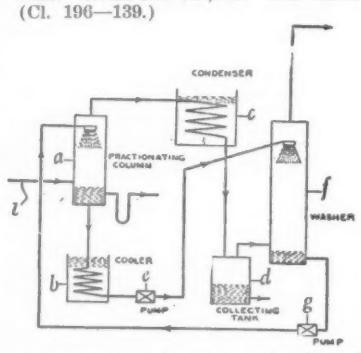


1. In an evaporator for treating petroleum oils, the combination of: a cylinder; two shafts, one projecting from one end of said cylinder and the other projecting from the other end of said cylinder, said shafts having a common axis about which said cylinder rotates; a tight casing enclosing said cylinder; an oil inlet means for delivering oil onto said cylinder; a vapor outlet means for withdrawing oil vapor from said casing; two bearings, one supporting one of said shafts and the other supporting the other of said shafts; means for electrically insulating said bearings from said casing and means for impressing an electromotive force between one end of said cylinder and the other end of said cylinder.

1,586,357. Manufacture of Light Hydrocarbons. Lazar Edeleanu, Berlin-Charlottenburg, Germany. Filed January 20, 1925, Serial No. 3,684, and in Germany December 17. 1924. (Cl. 196—54.)

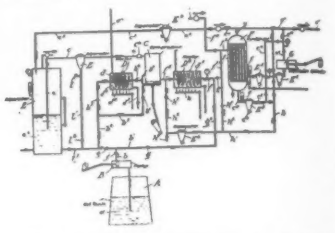
2. The process for converting mineral oils into light hydrocarbons of lower boiling point which consists in depriving said oil of the constituents soluble in liquefied sulphur dioxide, preparing a double compound of said mineral oils by treating with aluminum chloride, adding gradually the said double compound to the mineral oil to be converted, and causing the said double compound to react on the mineral oil by heating.

1,572,626. Apparatus for the Production of Gasoline. Frank Tinker, Sutton Coldfield, England. Filed June 7, 1923. Serial No. 643,968. One claim. (Cl. 196—139.)



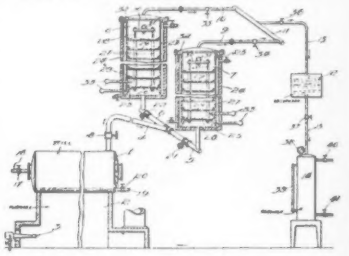

An apparatus for the production of gasoline and like motor spirits by distillation processes, the combination with a fractionating column, of a condenser means for conducting vapor from the fractionating column to the condenser, a collecting tank, means for conducting condensed liquid, gas and vapor from the condenser to the collecting tank, a washer, means for passing vapor and gas from the collecting tank to the washer, a cooler, means for passing condensate from the fractionating column to the cooler, means for conveying cooled condensate from the cooler to the washer, and means for returning liquid from the washer to the fractionating column, substantially as described.

1,585,687. Process of Cracking or Otherwise Altering the Composition of Hydrocarbons. August J. Paris, Jr., Bradford, Pa. Filed May 3, 1915. Serial No. 25,402. 18 Claims. (Cl. 196—9.)



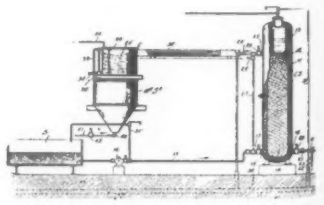
1. The process of altering the boiling points of hydrocarbon oils, which consists in heating the hydrocarbon oil to a temperature below its boiling point, mixing the oil without the separation of vapors therefrom with a gas, introducing the said mixture for the purpose of heating the mixture, and subsequently cooling the resultant products and separating the liquids from the gas.

1,587,491. Process of Treating Hydrocarbons. Roy Cross, Kansas City, Mo. Filed February 9, 1923. Serial No. 617,955. 6 Claims. (Cl. 196—28.)



1. A process of treating petroleum oil, consisting in heating and vaporizing the oil under substantial pressure, passing the evolved vapors through a mixture of bentonite and a salt of a metal having an affinity for the sulphur compounds of the oil while maintaining the mixture above the dry point of the oil, and condensing and collecting the treated vapor as liquid distillate.

1,586,801. Method of and Apparatus for Continuously Separating Petroleum Sludge. Ingenuin Heckenbleikner and Thomas C. Oliver, Charlotte, N. C. Filed March 20, 1923. Serial No. 626,272. 16 Claims. (Cl. 196—148.)



1. In a continuous process of separating acid sludge obtained from the treatment of petroleum, the steps which consist in subjecting the acid sludge to the action of steam under pressure greater than atmospheric to obtain a chemical separation of the sludge into its hydrocarbon and acid components, in withdrawing from the acid sludge while under treatment the said components in a chemically separated but mechanically intermixed state, and in then effecting a physical separation of said components.

# —and nothing more

The best materials obtainable, and exacting control of processes from first to last,—that's all.

But that means steel of unvarying uniformity and quality and that's what you get when you specify Diamond "H" Bit and Jar Steel.

REGISTERED

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# Explain Operation of Leamon Process

## Vapor Phase Type of Cracking Produces Motor Fuel of High Antiknock Value. Now Operating at Two Refineries

By W. G. Leamon

**LEAMON PROCESS**

In the accompanying article, W. G. Leamon at the request of The Oil and Gas Journal briefly describes the main features of the cracking process, of which he is the inventor. This process has been in operation for some time at the Newark, Ohio, refinery of the Stellar Refining Co. and additional units recently started operating at the Baltimore, Md., refinery of the Interocean Oil Co.

The plant is one of the two or three vapor phase processes now operating on a commercial basis. The writer in this article explains both the operation and the characteristics of the finished gasoline which give it exceptional value as a motor fuel.

In the accompanying Figure 1 are shown diagrammatically the cracking elements assembled in the Stellarene unit. Each is made separate and distinct unto itself, and, to the best of our ability, the best equipment is selected for each function. The selecting is done by a bubble column similar to that used in the alcohol industry. The heat exchangers are by a design developed for this purpose. The heating element is the well-known Foster oil heater with extended surface rings over seamless steel tubing. We unequivocally claim the best reacting element for the reason that therein is housed the catalyst that controls the composition of the product and reduces the time of reaction.

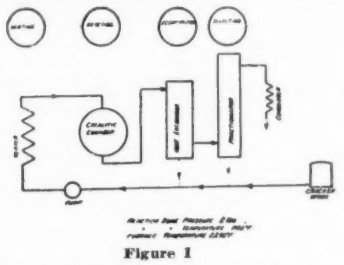

Figure I

Figure 2 shows a more or less complete layout of a Stellarene unit. All oil returned by the selector, that is, the fractionating column, for reprocessing, as well as all heavy oils intermediately condensed, together with the fresh cracker stock, are mingled in the so-called reflux tank. The pump takes the oil from this tank and forces it through the economizing units, that is, heat exchangers, to the lower heating coils of the heating element. At a predetermined temperature the mixture of oil and vapors are passed out of the heater into the so-called tar drum. Accurate control of this temperature is effected by means of a pyrometric controller connected to a solenoid valve on a by-pass around the heat exchangers. In the tar drum the tars and extremely heavy oils, which could not be converted to vapors, are dropped out and allowed to escape through a solenoid valve on the escape line which is operated by a constant level float regulator.

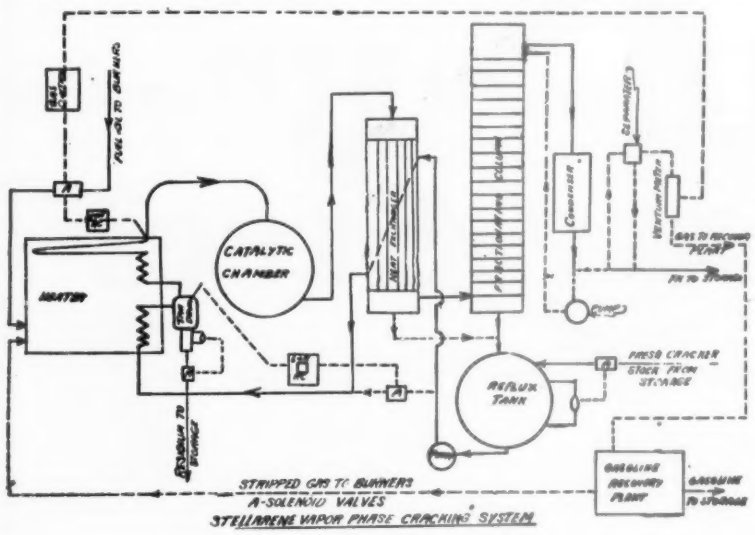


Figure II.

**Temperatures**

The vapors pass back into the heating element where they are raised to as high a temperature as is possible without carbonizing the tubes of the heater. Where a uniform cracker stock is used, this temperature can be determined experimentally and maintained by a constant temperature pyrometric control connected to a solenoid valve on the fuel line to the furnace of the heating element. Where the characteristics of the cracker stock vary, a different system is used, which I will later describe. The vapors pass from the heater through the reacting zone containing the catalyst, thence to heat exchangers and fractionating column where all but the desired converted product and the gases produced are condensed and trapped back into the starting tank. The vapors leaving the fractionating column are condensed in the condenser and flow to storage. The percentage of motor fuel in this condensate can be controlled at will, but usually is desired to be between 70 and 90 per cent. The gases not condensed in this condenser pass through a separator to take out the mechanically carried mist of liquid and then through a venturi tube and thence to a tail gas recovery plant, where the last remaining portion of gasoline vapors are removed. This fixed gas then returns and constitutes the fuel used by the unit. The differential pressure produced by the passage of the gas through the venturi tube is employed to control the amount of fuel passing to the furnace. By maintaining a constant flow of gas the cracking reaction is maintained at a constant rate regardless of the character of the cracking stock, and the human element in determining correct heater temperature and maintaining it has been eliminated.

**Complete Plant**

Figure 4 shows a complete cracking plant in which we can follow the course of the oil from the cracker stock tank through the heating, reacting, economizing and selecting elements, thence to the condenser, through the glass enclosed lookbox for inspection to the intermediate storage tank. The product at this point is a crude cracked product, called in the Stellarene process "yellow naphtha." Other processes christen their analogous products "synthetic crude," "pressure distillate" and numerous other names. The yellow naphtha is taken from storage, given a treatment and rerun in an equipment somewhat like the skimming plant already illustrated. The motor fuel passing from the fractionating column of the rerun plant is condensed and flows through another glass enclosed lookbox in the tail house, and thence to finished storage. The gas leaving the Stellarene unit is taken to a recovery plant, where the last bit of motor fuel is extracted from it and sent back through the same or equivalent lookbox for inspection, and thence to finished product storage. The stripped gas from the recovery plant is used as fuel.

**Finished Product**

We will now proceed to acquaint ourselves with this finished product. It has become an established practice to define the antiknock value of a fuel in terms of the percentage of benzol necessary to be added to a standard gasoline in order to make the blend produce as nearly as possible the same amount of knock in a motor. Obviously, the composition of the standard gasoline and the purity of the benzol are controlling factors and account for some of the discrepancies often observed in the work of different laboratories. Also, it has been found that the performance of a fuel in an engine running under conditions of established detonation, that is, a continuous knock, is different from its performance when the engine is running out of detonation, that is, without knocking, and that therefore a fuel may, and in fact does, have in some cases, two benzol equivalent values. Stellarene is such a fuel. Further, it is to be noted that increasing amounts of benzol in the reference blend have an increasing antiknock effect. This is the reverse of the usual effects of the so-called "dopes."

**Benzol Equivalent**

You will note in Figure 5 that the first 5 per cent of benzol has virtually no antiknock value, and therefore any gasoline can almost be said to be equivalent to a blend of 5 per cent benzol with itself. A 10 per cent blend is not much better. The shaded areas indicate the relative effectiveness of progressive increase in percentage of benzol in 10 per cent steps.

Stellarene has usually been found to be equivalent to a blend of paraffin-

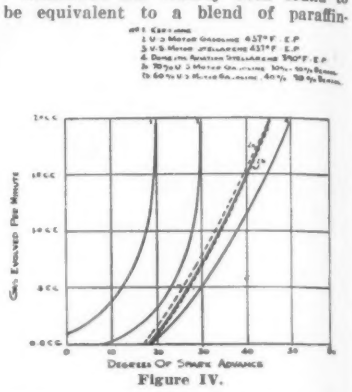


Figure IV.

gasoline and 90 per cent benzol, containing from 30 to 40 per cent benzol. Some determinations of the benzol equivalent of Stellarene, when running at the highest possible compression, before inducing regular detonation, have shown a higher

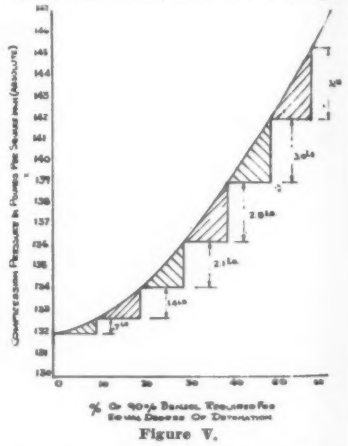

Figure V.

than 40 per cent equivalent. This is the condition that will ordinarily be found in automobile practice. Other determinations have been made showing the benzol equivalent, under conditions in which regular detonation exists in the motor,

(Continued on Page 150)

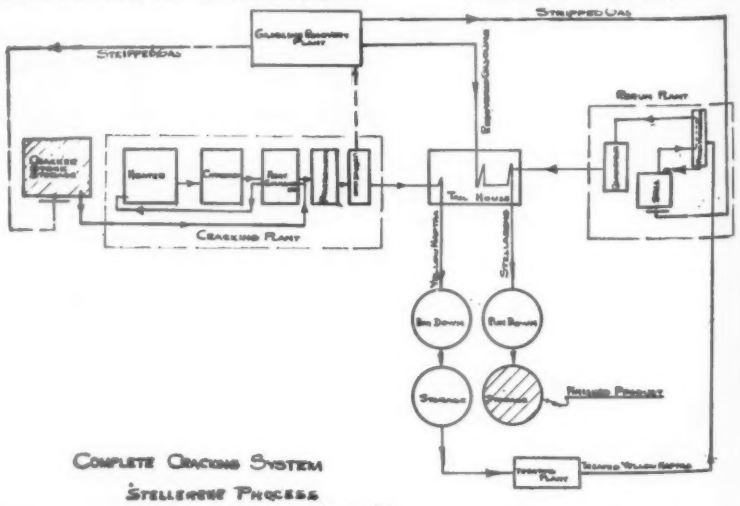


Figure III.

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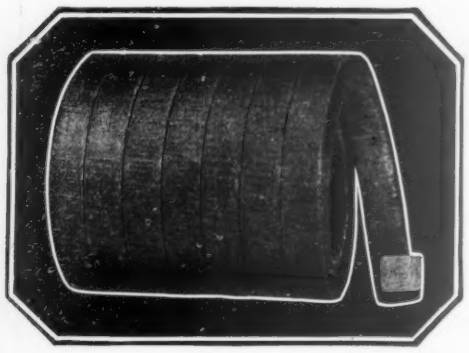

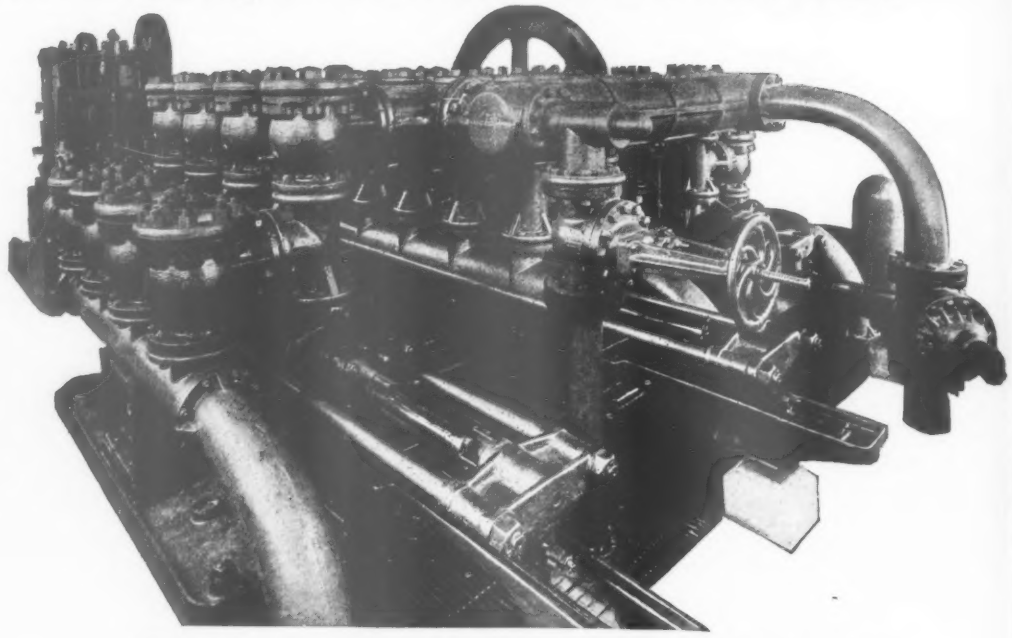

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# POSSIBILITIES OF CREEK COUNTY AS VIEWED BY GEOLOGISTS

(Continued from Page 77, July 1)

Large northeast-southwest folds. There are a number of anticlines in the county much larger than the average, such as the domes in the Cushing Field. (See Figure 1.) The long axes of these folds lie more nearly north and south than those of the folds next to be described, and are closely parallel with the trend of the en echelon fault zones in this part of the county. As well as being larger areally, these anticlines usually also have much more pronounced structural relief. Maximum reverse dips on the Cushing structures range between 100 and 160 feet from top of dome to bottom of deepest part of syncline. These domes range from 1 to 3 miles in width and from 2 to 5 miles in length.

### Structural Relief

The structural relief on the surface of the Cushing group of structures is much lower than that on the producing sands. Beal[6] mentions this difference in interval between surface and lower formations showing the same in the form of tables. The increase in dip of the subsurface formations over those at the surface ranges from 50 to 200 feet approximately. Beal also mentions the fact that the high point on the producing sands sometimes appears to be eastward from that on the surface beds.

Small northeast-southwest en echelon folds. It is to be observed that within the zones of en echelon faulting there is usually more or less intense folding, while between these belts there is little or no folding of any prominence. The folds in the fault zones may be grouped into three general classes. These classes will be described in this and the following two paragraphs. These folds rarely exceed a mile or two in length and may take the form either of domes or of open anticlines.

### Anticlinal Folds

The first class is that of anticlinal folds, the long axes of which lie northeast and southwest, approximately at right angles with the traces of the en echelon faults, and at an angle of about 45 degrees with the direction of the fault belt in which they occur. Like the larger folds of the Cushing Field, the structural dips of these folds increase with depth. Upon the surface formations the reverse or southeast dip on these anticlines ranges from 5 to 10 feet up to 30 or 40 feet. The corresponding dip on the deeper subsurface formations is frequently double that on the surface formation above them. The authors have often observed that the axis of these anticlines are inclined westward, placing the top of the anticline on the oil sands west of the top of the same anticline on the surface formations. Sometimes this pitch of axial plane will shift the subsurface apex as much as a quarter of a mile or more west of the surface apex. (See Figure 5.) Sometimes

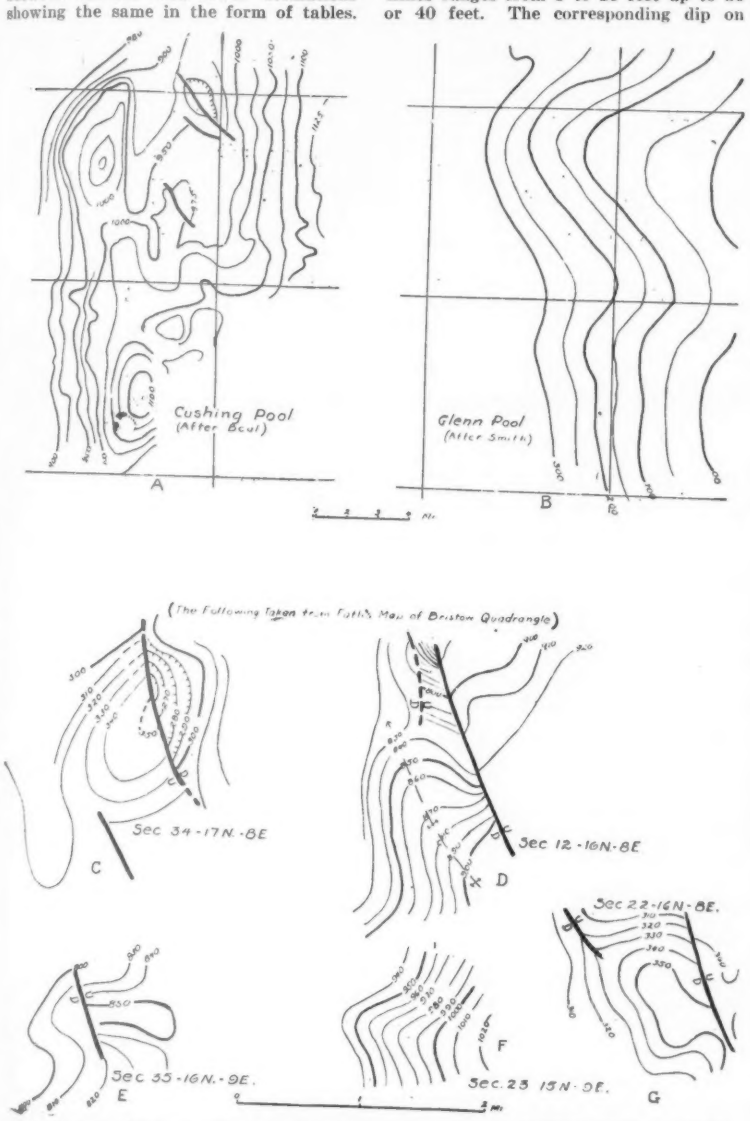


**Fig. 1.—To show the most important types of structural features found in Creek County, as described in the text. A is the long north-south anticline; B the large terrace type; C the faulted northeast-southwest compression fold; D the plunging northwest-southeast fold; E the faulted east-west fold; F the plunging nose, and G the same as D.**

[6]Beal, C. H., Geologic Structure in the Cushing Oil and Gas Field, Oklahoma, Its relation to oil, gas and water. Bull. U. S. Geological Survey No. 658, p. 24 (1917.)


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FIG. 1

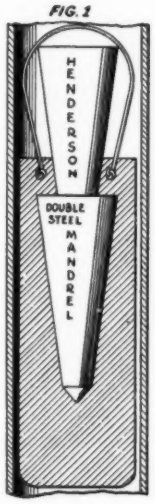


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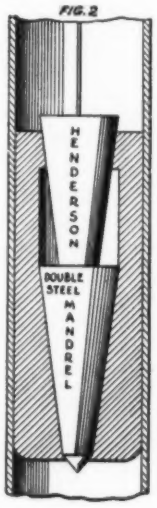
FIG. 2

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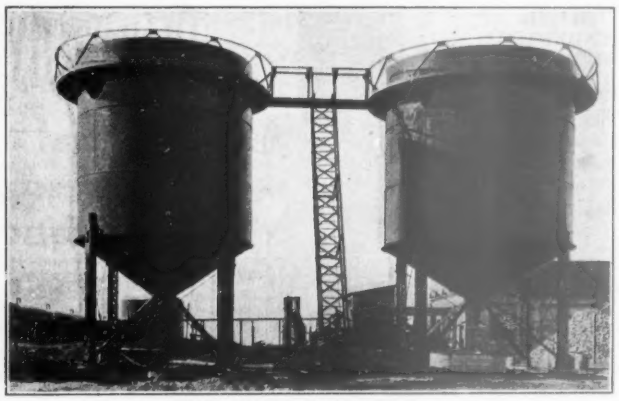

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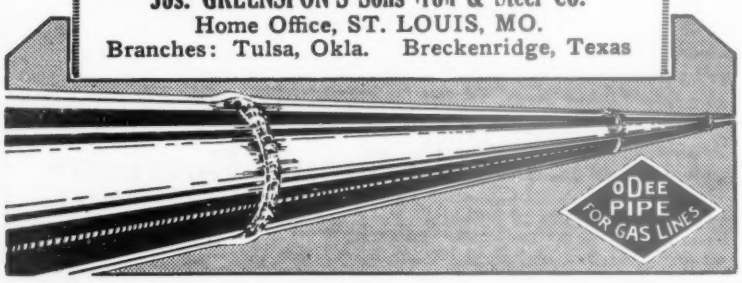



these anticlines are terminated on their northeast ends by faults.

**Second Class**

Small northwest-southeast folds. This is the second class mentioned above, and into this group fall the folds whose long axes lie roughly parallel with the individual faults in the fault zones. (See Figure 1.) These folds are thought to decrease in intensity with depth. They are most usually found in the zones of faulting and, more frequently than not, are associated with the faults themselves. They appear to be less uniform in character than the class last described above.

Folds without regular pattern. Into this third class are thrown folds whose pattern is so irregular as to make classification difficult. They appear to be formed by the modification of one or the other of the folds described above.

Terraces. The most common form of terrace is that which has its greatest elongation roughly parallel with the strike of the rocks of the region, and also parallel with the lines of en echelon faults. Terraces of this sort may be several miles long and a mile or more wide, and may be modified by anticlinal, synclinal, or fault irregularities. Some of these terraces are very productive. Such a terrace is to be found occupied largely by the Glenn Pool. (See Figure 1.) This terrace is crossed by flutings or slight anticlinal and synclinal parallel folds whose axes lie about at right angles to the long dimension of the terrace. The Slick Pool is on another terrace which has an irregular surface. In this pool the more prolific wells are found upon the small "highs" which form these irregularities.

**Terrace Production**

Terrace production is more frequently found upon the westward edge of the flattened area and part way down the steeper slope west of the "break" in the structure.

Another form of terrace has been observed whose longer dimension takes a diagonal course down the normal dip. It is much smaller than the examples cited above and has, probably, a distinctly different origin.

Minor irregularities. At no place in the county do the structure contours follow straight lines, nor are they anywhere spaced uniformly for any great distance. They rather follow irregular courses and are full of small crooks. These small irregularities in direction may be due to the forces which combined to form the more prominent structures already described, or they may be due to such conditions of sedimentation as thickening and thinning of beds locally, or both. Since these small features are rarely significant as touching the problem of production, they will be ignored in the further discussion of the structures and their origin.

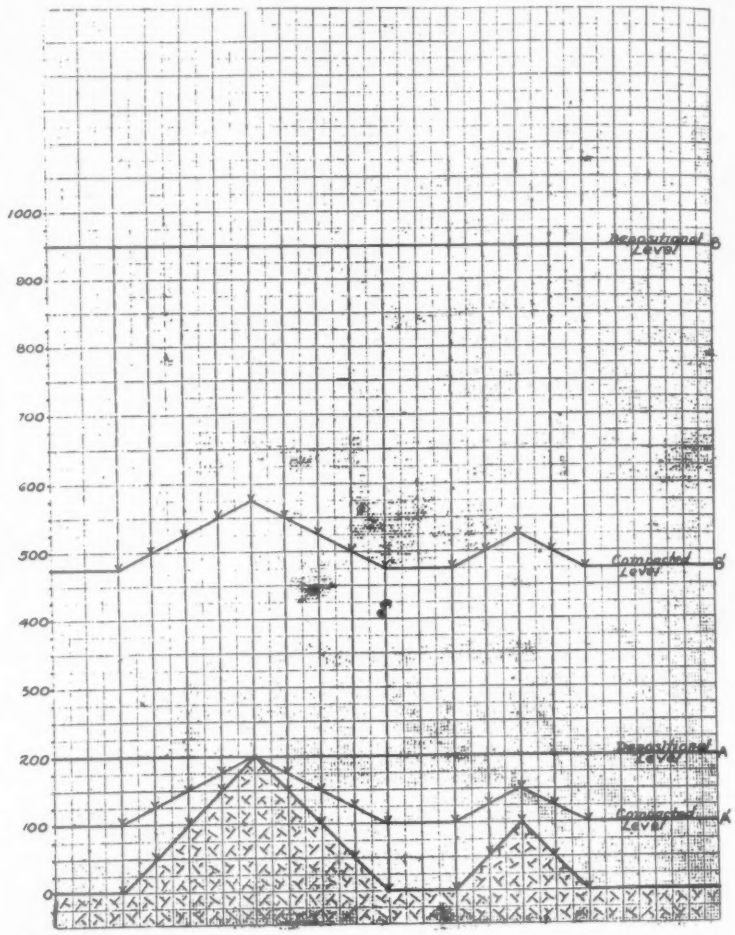


Fig. 2.—Quantitative sketch to show how compaction of sediments over old topography would affect the overlying sediments if it is assumed the sediments will compact as much as 50 per cent and that compaction, in this case, does not take place until deposition is complete. A is one level of completed deposition compacted to A'. B is another level of completed deposition compacted to B' and on the old surface the same as if A and A' were not there. It will be noted that compaction takes place vertically, always, and that the diameter of the base of the reflected structure will be the same as the diameter of the base of the buried hill, regardless of the thickness of the sedimentary section. Also the amount of structural relief obtainable depends on the height of the buried hill and not upon the thickness of the sediments deposited above line A. Thus, line A (200 feet of shale) compacted to A' gives as much relief as B (250 feet of shale) compacted to B'. The stratigraphic interval will be the same to the side of the buried hill as directly over it. It seems obvious that compactness never waits until deposition has ceased before becoming effective, and that such an ideal condition as indicated above is never obtained in nature. It is meant by complete compaction that the surfaces of all of the individual particles are in contact and nothing but pore space remains.

**Origin of Structural Features**

General statement. Several theories have been advanced to explain the origin of the Mid-Continent types of structure. The authors will now attempt to discuss the greater number of these theories one by one, and to test, as far as possible, the applicability of these theories to the local problems in Creek County. After testing these theories the authors will bring up conditions which these theories do not

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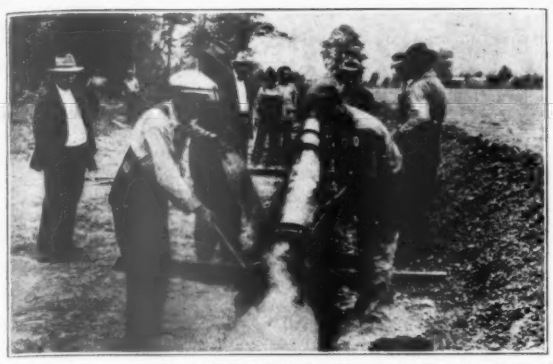

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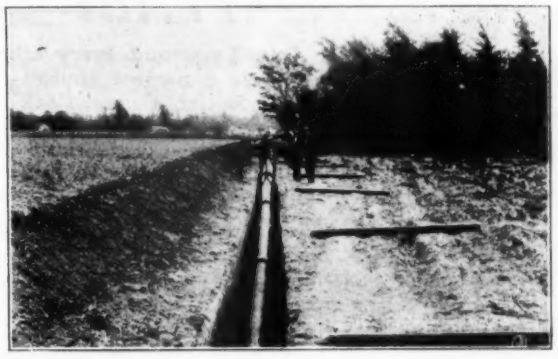

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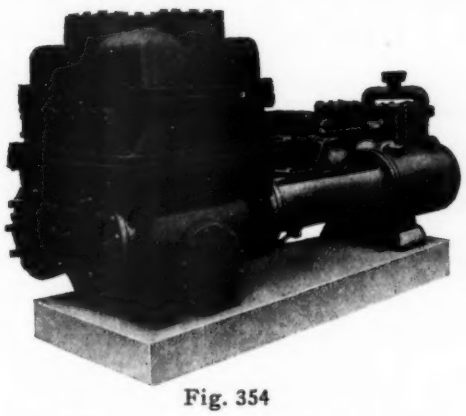

Fig. 354

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satisfy, either wholly or in part, and will attempt to find a theory which seems to explain more completely the origin of Creek County structures. The reader must not allow himself to think that any simple theory will explain structural conditions in this county any more than in any other region.

Folding by vertical thrust. Gardner[7] in 1917 suggested that local folds might be formed through vertical transmission of pressure from deep seated sources in the zone of rock flowage. It is possible that the presence of granite ridges at relatively shallow depths in the Mid-Continent region might suggest some such explanation for the structures overlying them. On the other hand, for every structure underlain by a prominent granite ridge there are hundreds that show no such relationship. Furthermore, the average Mid-Continent structure is very small and this fact alone precludes any such explanation, because it seems impossible for forces to come from the zone of flowage and apply themselves to such small areas. This theory, also, does not seem applicable to a territory in which structures are aligned and have definite axial arrangement.

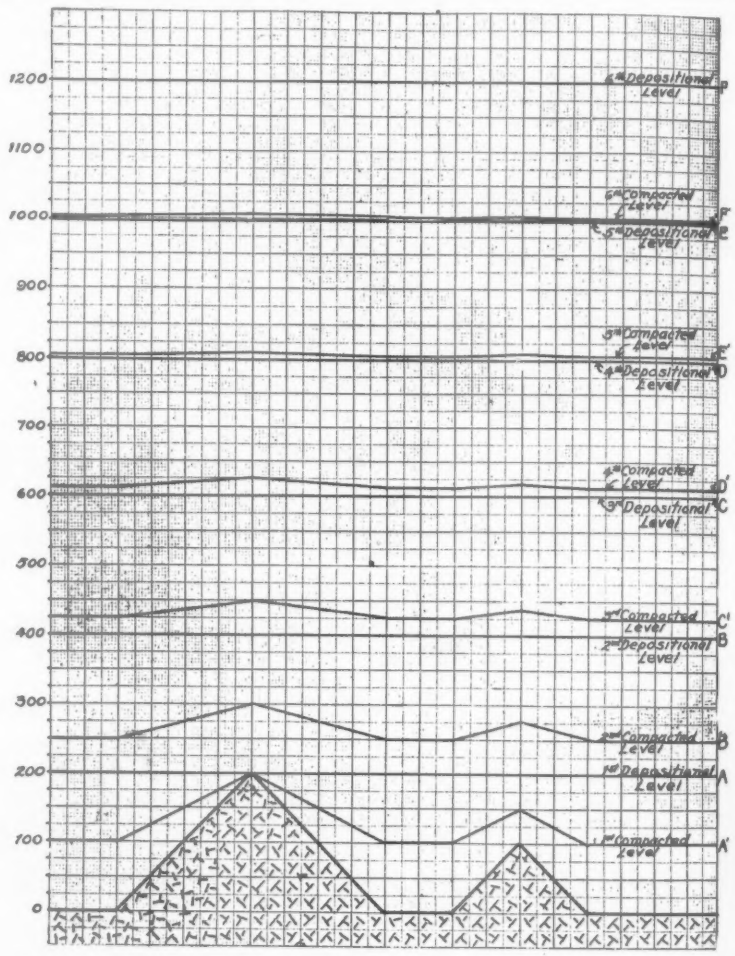


Fig. 3.—Quantitative sketch to show how compaction of sediments over old topography would affect the overlying sediments if it is assumed that the sediments will compact as much as 50 per cent and compaction to be taking place as deposition proceeds. The sketch shows A to compact A'. Then on top of the compacted surface A' sediments up to B are deposited; these are compacted to B'. This same process will continue until F is compacted to F'. It will be seen that the reflected structure decreases upward until, at F', the compacted surface is almost flat. Also the stratigraphic interval to the side of the buried hill is greater than that immediately above it, which condition can only be obtained by compaction during deposition or by progressive folding during the same. As shown, assuming complete compaction to take place at intervals of about 200 feet, by the time 1,200 feet of sediments are deposited and compacted, very little reflection of the old topography is noticeable. Recent observation has shown that complete compaction very nearly takes place after 100 feet of burial. The above case greatly exaggerates the amount the sediments above the Mississippi lime would compact and doubles the depth at which complete compaction would probably take place. Since the buried topography does not generally reach within 2,400 feet of the surface in Creek County, or northeastern Oklahoma, it does not appear that compaction can account for the type of structural features found there.

### During Deposition

Warping of sediments accompanied by faulting during deposition. McCoy[8] explains the faulting and folding of this area by the statement that during the deposition of the Pennsylvanian, two basins were formed, one in southeastern Kansas and one just north and northwest of the Arbuckles in central Oklahoma, leaving the territory of Tulsa, Osage, Creek and Pawnee counties as a fulcrum between these two basins. The formation of these two basins, he believed, would cause tension in the fulcrum area which would be relieved by tension faults with a northwest-southeast trend. In order to spread these faults over the territory in a northeast-southwest direction, he assumed a shift back and forth of the fulcrum point.

In considering this explanation, it does not seem possible to develop enough tension to explain even a very small proportion of the faults actually found in the area, even if no readjustment by differential movement were considered. If small, sharply folded anticlines may be formed with little or no faulting (and thousands of such cases may be cited), certainly a broad arch which is hundreds of miles across cannot be expected to develop tension faults upon its crest. Such slight folding would most readily and immediately be taken up in slight differential movement and readjustments.

Packing and condensation of sediments. Blackwelder[9], commenting upon the structures of east-central Kansas, believes compacting of sediments over buried topography will account for most of the anticlines in that region. He states that the folds do not take the form expected as a result of tangential compression, that the

[7]Gardner, J. H., Mid-Continent Oil Fields, Bull. G. S. A., Vol. 28, 1917, pp. 685-720.

[8]McCoy, A. W., A Short Sketch on the Paleogeography and Historical Geology of the Mid-Continent Oil District, and Its Importance to Petroleum Geology. Amer. Assoc. of Pet. Geol. Bull. Vol. 5, pp. 541-584 (1921.)

[9]Blackwelder, Eliot. The Origin of the Central Kansas Oil Domes. Am. Assoc. Pet. Geol. Bull., Vol. IV, No. 1, 1920, pp. 89-94.

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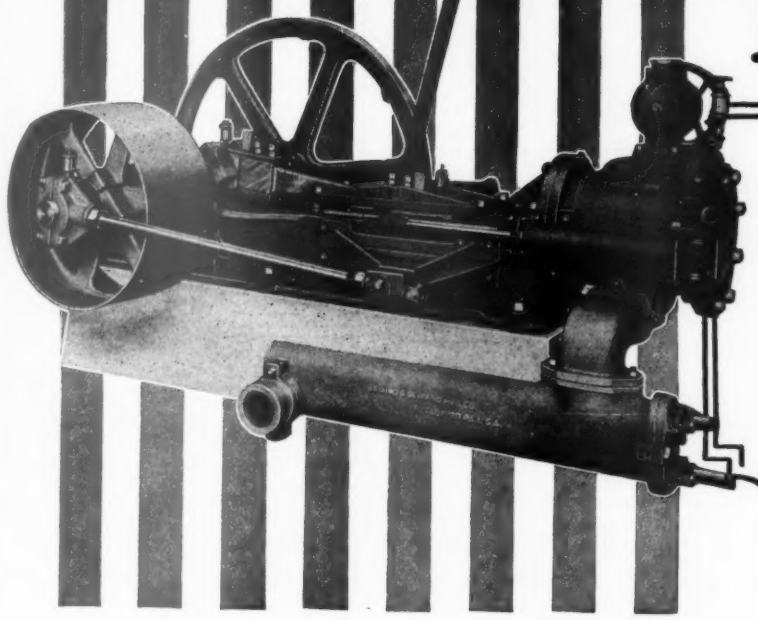

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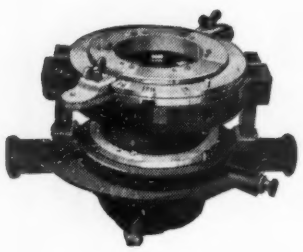

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arrangement of the folds is not en echelon, as would be expected by tortional movement, and that there appears to be no relationship between adjacent faults and folds. He notes the divergence of beds away from the axes of the domes and states the belief that this divergence is best explained by the compacting of the sediments during deposition.

### Theory of Compaction

Monnett[10] explains the origin of some of the Mid-Continent structures also by the theory of compaction. He lays special emphasis, however, upon the effect of sand lenses in causing irregular consolidation of the sediments.

Powers[11] believes also in the efficacy of sedimentary compression during deposition, especially over old land surface irregularities, but, in order to explain the increase of structural dips with depth in many cases, he also invokes progressive, either regular or spasmodic, uplift of the buried hills as partially responsible for the origin of at least some of the structures. Minor structures between certain "granite buttresses" he explains are due to compressive or local tangential forces.

Rubey[12] also agrees that gravitational compression has at least something to do with the formation of some structures in the Mid-Continent region. Many others follow the same line of reasoning as that adopted by the foregoing writers.

Lewis [13] has made a volumetric study of compaction of the silts in the Hudson River and states that clay silts there, when buried to a depth of 50 feet, suffer a reduction in pore space of about 55 per cent. Deposition here is very rapid.

### Pore Space

Leith and Mead[14] show that clays have an average pore space of 27 per cent while shales average in pore space of 13 per cent. This reduction in pore space from clay to shale is almost identical with that found by Lewis in his Hudson River study.

Just[15], after citing Leith, Mead, Lewis and others, concludes that even in extreme cases the compaction deformation in sediments would not exceed 35 per cent of the original volume (measured in amount of slump of overlying beds) and rapid compaction at beginning of deposition would lessen, even this 35 per cent.

The authors concede that compaction does take place during deposition of sediments, and must be taken into consideration as a factor in discussing the origin of structure in sediments. They cannot, however, consider compaction as any more than a minor element. The following observations militate against sedimentary condensation as the principal explanation for the origin of Mid-Continent structures:

(a) If all Mid-Continent structures must be explained as originating from compression of sediments during deposition over old land surface irregularities, the large number of these structures.

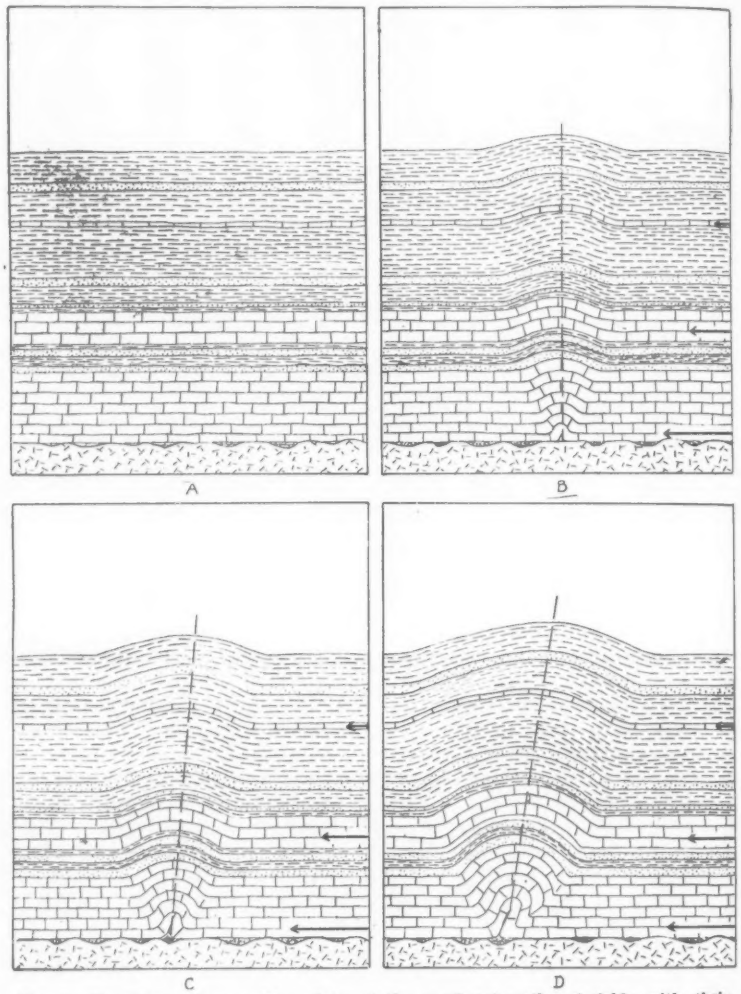



**Fig. 5.—To picture the possible origin of the northeast-southwest folds with their frequent shift of the axial plane to the west. If sketch A be an undeformed cross section taken between C-C' of sketch B, figure 4, then B, C and D above, show the progressive effect of this compression. The greater movement in the basement crystalline rocks is always in the segment southeast of the zones of shearing (Fig. 4, Sketch D). This in turn causes the greatest compressive forces in the sediments to come from the southeast. This compression is greatest on the lower beds, tending to drag them under the upper beds. The arrows indicate the relative intensity of the horizontal movement in the beds.**

[10]Monnett, V. E., Possible Origin of Some of the Structures of the Mid-Continent Oil Fields, Economic Geology, Vol. 17, No. 3, pp. 194-200, 1922.

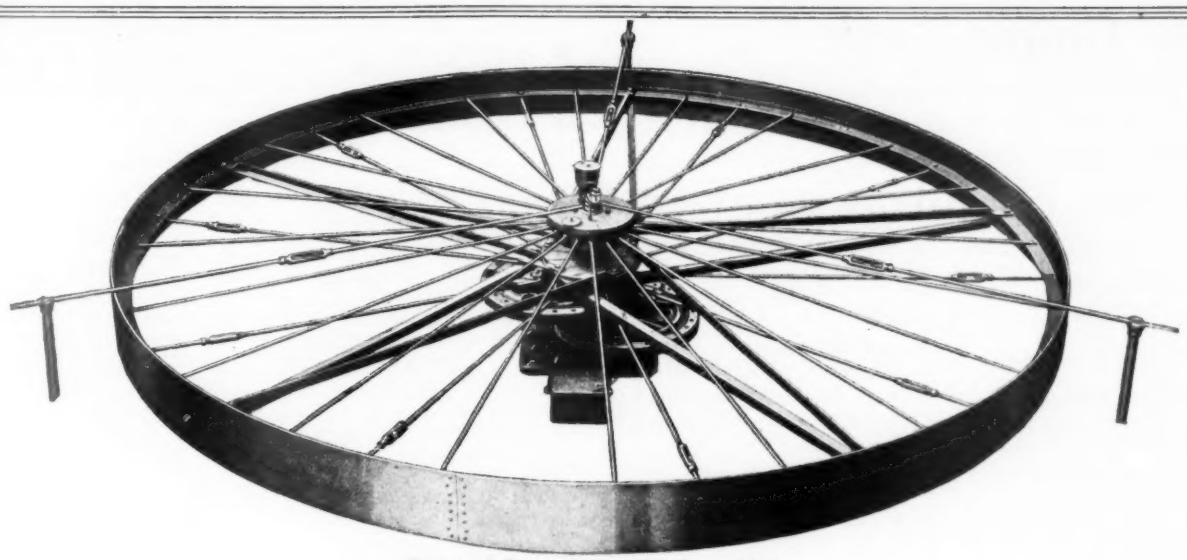
[11]Powers, Sidney, Healdton Oil Field, Oklahoma, Economic Geology, Vol. 12, pp. 594-606, 1917. Granite in Kansas, Amer. Jour. Sci., 4th Ser. Vol. 44, pp. 146-150, 1917. Reflected Buried Hills and Their Importance in Petroleum Geology, Economic Geology, Vol. 17, No. 4, pp. 233-259, 1922. Structural Geology of the Mid-Continent Region, Bull. Geol. Soc. Amer., Vol. 36, pp. 379-392, 1925.

[12]Rubey, W. W., Progress Report on Subsurface Study of Pershing Oil and Gas Field, Osage County, U. S. G. S. Bull. 751-B, 1924.

[13]Lewis, J. V., Fissility of Shale and Its Relations to Petroleum. Bull. G. S. A., Vol. 35, pp. 557-590; 1924.

[14]Leith, C. K., and Mead, W. J. Metamorphic Geology, 1915.

[15]Just, Evan. Unpublished Manuscript, 1925.



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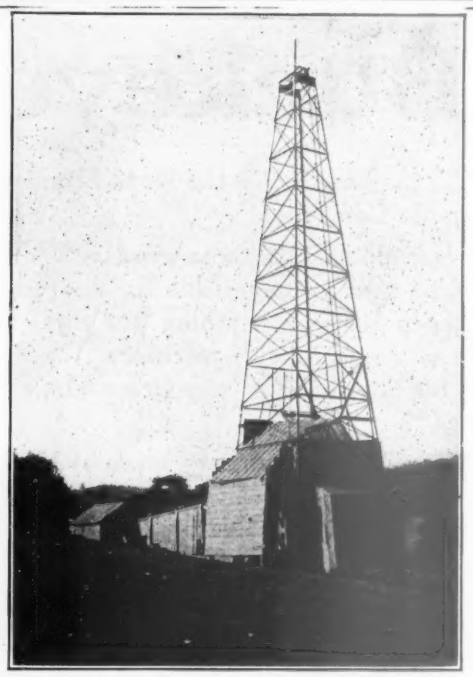

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and their relatively small size and frequent steep dips, makes necessary the presence of an old land surface of extremely rugged character. This rugged topography must have existed on top of the Mississippi lime or later, because the rocks of Mississippian age and older are less compressible and, furthermore, many unconformities below Mississippian rocks would tend to fill in the depressions and eradicate all but the most extreme irregularities over older land surfaces.

**Missing Factors**

(b) If compaction is the chief element in the formation of structures in this region, one would expect a surface structure map of any and all parts of the region to show some resemblance to an ordinary surface topographic map. General drainage patterns and the like, however, cannot be found, even in the modified form that one would expect to result from such sedimentation modifications.

(c) While there is an increase in structural dip on many of the Mid-Continent anticlines and domes as one progresses downward, which may be accounted for by compaction during deposition (see Figures 2 and 3), this may more adequately be explained by progressive folding during deposition. (See Figure 6.)

(d) Compaction cannot take place at once, but rather appears to be going on during the entire period of deposition, with probably the greatest amount of shrinkage in any one body of sediments taking place almost simultaneously with the deposition of that body. This is particularly well illustrated by the Hudson River clay silts. The tendency, therefore, will be for this immediate compaction to result in the accumulation of more sediments in the compaction basins, (see Figuer 3) which would overcome a large proportion of the results expected from compaction should it all take place late in the period of deposition. Furthermore, after deposition has reached the tops of the buried hills, compaction structures being formed in the sediments being deposited there would tend to show themselves in the form of sea-floor hills. These higher places would be much more subject to the erosive effect of waves and currents, and such water action would tend to remove them and reduce the sea floor to a dead level. This, therefore, would greatly reduce the effect of compaction in the formation of structures, especially as deposition continues to considerable depth.

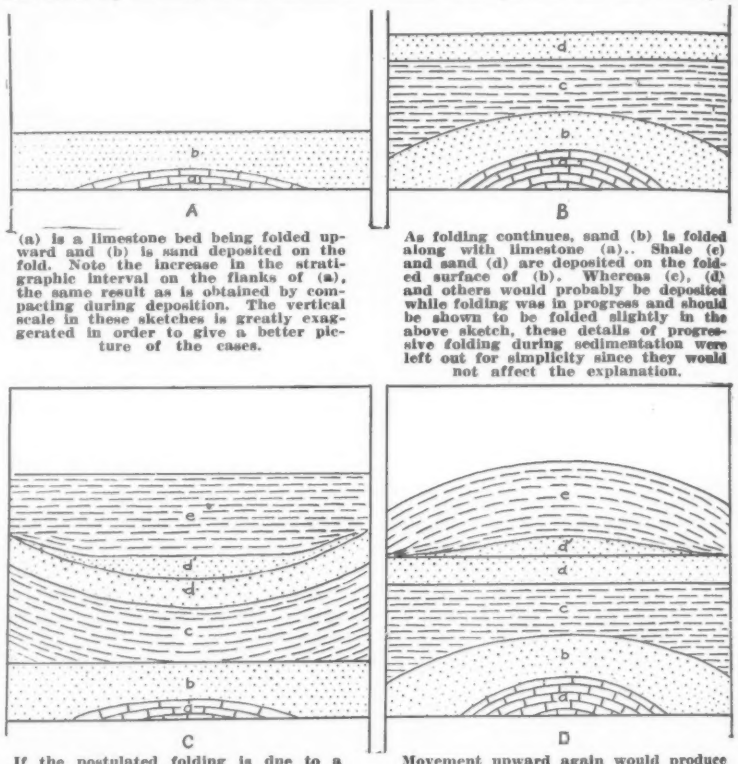
**Compaction Does Not Explain**

(e) In order to explain some relatively deep closed synclinal basins by the compaction theory, one would have to have in the old buried topography an exceptionally deep, steep sided, closed basin, such as would only probably be found in karst topography. In some cases the topographic basin would have to be over 200 feet deep if we assume compaction takes place after deposition, and much more if it takes place during deposition, because early compaction during deposition would tend to obliterate the effect of compaction over such basins, for by the time the basin itself was filled with sediments the compaction would be almost complete and there would be relatively little settling of sediments lying above it. Basins of that character and depth are hardly to be expected in this region.

(f) Compaction would hardly explain the formation of a fault with a dome on one side and a closed depression on the other, especially where the structure contours are "D" shaped with the fault forming the straight side. A good example of this may be seen in Fath's map (U. S. G. S. Bull. 759, Pl. VIII) of the Bristow quadrangle in Creek County, Sections 13 and 24, Township 17n, Range 9e. Many similar examples may be found in Creek County and elsewhere in the Mid-Continent area. (See Figure 1.)

**Closed Structures**

(g) Many closed structures of the Mid-Continent area show steeper reverse dips than basinward dips. While this is not necessarily the rule, the frequency of their occurrence raises the question as to whether such variance of dip can be




(a) is a limestone bed being folded upward and (b) is sand deposited on the fold. Note the increase in the stratigraphic interval on the flanks of (a), the same result as is obtained by compacting during deposition. The vertical scale in these sketches is greatly exaggerated in order to give a better picture of the cases.

As folding continues, sand (b) is folded along with limestone (a).. Shale (c) and sand (d) are deposited on the folded surface of (b). Whereas (c), (d) and others would probably be deposited while folding was in progress and should be shown to be folded slightly in the above sketch, these details of progressive folding during sedimentation were left out for simplicity since they would not affect the explanation.

If the postulated folding is due to a vertical movement along a buried fault plane in the basement rocks and if this movement be reversed (d) would be depressed as shown. Continued deposition of sand would tend to fill in the depression and form (d'). Shale (e) would then be deposited on (d'). That reverse movements take place along fault planes has been observed in cross section of faults in many cases.

Movement upward again would produce the effect shown above, namely, an increase in the stratigraphic interval on the apex of a folded bed combined with an increase in interval on the flanks of other beds, and a bed with less structural relief (or closure) than either the beds above or below it. If (d') had not been deposited, (d) would have less structural relief than the other beds but there would not be an increase in the thickness of the sand on the apex of (d) but an increase in the thickness of shale (e) instead.

**Fig. 6.—To show the effect of progressive folding during sedimentation on the stratigraphic interval, also what might be obtained if the direction of the vertical movement was reversed, then continued again upward. This may be a possible explanation of the abnormal conditions found on the Cushing structure.**

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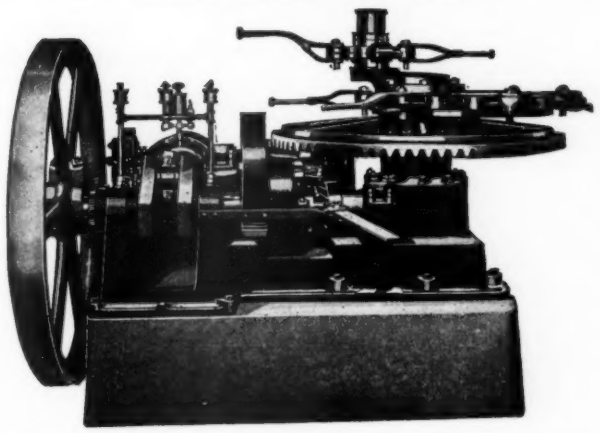

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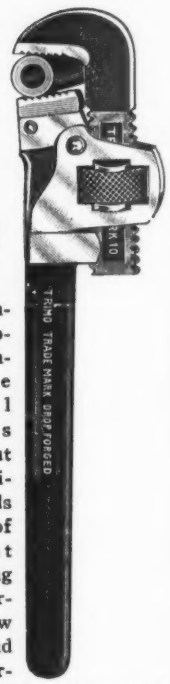


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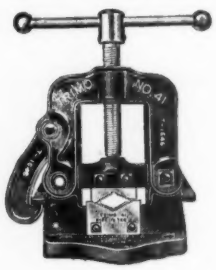


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explained by compaction. To explain it by this theory requires the occurrence of buried topography with an equal number of hills with exceptionally steep east slopes.

(h) Subsurface studies have brought out the fact that axes of a great number of structures in this region plunge in a basinward direction, i.e., the high point on the deep-lying strata is located in a basinward direction from the high point on the surface formations. Often this shift amounts to over a quarter of a mile, where subsurface formations are mapped at a depth of 3,000 feet or more. This axial shift can in no manner be explained by compaction. (See Figure 5.)

(i) Many structures have been reported in which the folding decreases with depth. These cannot be explained by the compaction theory. The explanation of their origin will be found elsewhere in this chapter.

(j) Compaction cannot explain faults of the en echelon type, or even adjacent parallel faults of any frequency. Faults caused by compaction would tend to take directions at a tangent to the curve of the structural contour lines.

(k) At least one thrust fault has been found in Creek County. This cannot be explained upon the basis of the compaction theory.

(To Be Continued)

## EXPLAIN OPERATION OF LEAMON PROCESS

(Continued from Page 138)

of less than 30 per cent. Generally speaking, and I believe for all practical purposes, so far as automotive use is concerned, Stellarene may be safely considered as equivalent to an ordinary gasoline benzol blend containing 35 per cent benzol.

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Whether the Doherty companies, which are operating in Mexico under the various names, will continue to develop properties and invest large sums in oil depends upon Mr. Doherty's ability to convince the Mexican Government that foreign capital is necessary, and that the laws must meet with the approval of financiers.

"The properties here with titles before 1917," said Mr. Doherty, "naturally, we are desirous of developing them, but at present I cannot say what we will do, as I have not studied the present laws, but I expect in a few days to have a complete grasp of the situation."

"Our companies have had rather a different system than that of most oil companies. We are alone, not tied up with any oil groups, and we have made a scientific study of Mexico and its resources. I personally believe that Mexico is unique in the oil situation, and I do not believe another spot will be found, with the possible exception of Maracaibo Bay, that will give the tremendous output of oil under such heavy pressure as Mexico has.

"The tremendous flow of oil is due to the immense pressure of water, which has kept the flows continuous until the wells have been exhausted. This condition exists in very few countries, in fact, practically only in Mexico. In the United States after the gas pressure has reduced, the majority of the wells then become a pumping proposition." Mr. Doherty added that he believed the United States soon would initiate a policy of conservation, which he declared was necessary if the people continued to use oil, gas, etc.,


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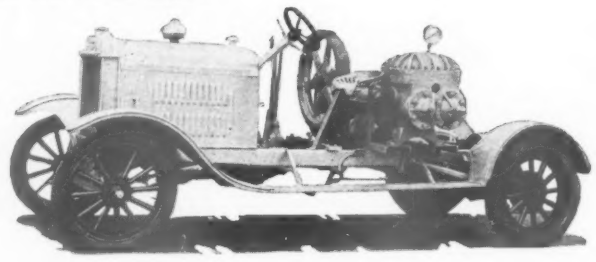

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# *In General Demand*

Appreciative letters commending The Oil and Gas Journal for the reprint of technical articles from its pages, "Modern Methods in Petroleum Refining and Natural Gasoline Manufacture" continue to pour in. Below are a few from recent mails:

## Extracts From Five Letters

GENERAL PETROLEUM CORPORATION
OF CALIFORNIA
Los Angeles, Cal., June 4, 1926.

THE OIL AND GAS JOURNAL, Tulsa, Okla.
Att: Dr. C. K. Francis, Tech. Editor.
Dear Sir:

I have just seen a copy of "Modern Methods in Petroleum Refining and Natural Gasoline Manufacture," which is a collection of reprints from articles appearing in your publication. Our Company, and many of the individuals thereof, are subscribers of the publication, but these articles, which are of intense interest and value, are scattered throughout several issues.

Is it possible for me to get one or more copies of this collection of reprints? If so, will you please advise the cost and the procedure necessary?

SUPT. LUBRICATING DEPT.

CRANE CO.
CHICAGO
June 4, 1926.

We would like, if possible, to have you send us six more copies, send me the bill for whatever the cost of *six copies* will be, as I want to place them in the Engineering Department, in order to assist the men handling the oil trade to understand better the use of our goods for this service.

EB:EAJ EDMUND BURKE.

LONE STAR GAS COMPANY
DALLAS, TEXAS

I want to thank you for your letter of June 3rd, and the copy of the reprint, "Modern Methods in Petroleum Refining and Natural Gasoline Manufacture," which has also come to hand. I think this is a most excellent production and puts a lot of technical matter in condensed form, and serves somewhat the purpose of a handbook.

I would be glad if I could secure *six additional* copies, and if there is any charge for these I would be very glad to remit. It is my purpose to distribute the book among a selected number of employes.

FLC:R F. L. CHASE.

MELLON INSTITUTE OF INDUSTRIAL
RESEARCH
Pittsburgh, Penna.
June 8, 1926.

Dr. Gruse has shown me the book "Modern Methods in Petroleum Refining and Natural Gasoline Manufacture," that you forwarded to him.

The scope of the work covered in this series of articles is of great interest to me, and I wonder if it is too much to ask you to send me a copy. I should appreciate it very much.

DONALD R. STEVENS.

D.R.Stevens-HD

SHELL COMPANY
OF CALIFORNIA
San Francisco, June 15, 1926.

I thank you very much for the reprint of "Modern Methods in Petroleum Refining and Natural Gasoline Manufacture."

I have taken this opportunity to subscribe to the Journal and hope that I can spend considerable time reading it and getting the benefit of its information.

E. HEPNER.

EH:FP

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in the same increasing proportions as now.

"The fields of the United States will not last forever, and Mexico is in the same fix," said Mr. Doherty. "Unless Mexico adopts a policy of conservation there will not be much oil left. In Mexico, according to my reports, there is tremendous waste in extracting oil, probably greater than in the United States, where nine barrels of oil are wasted in the ground to extract one barrel."

Mr. Doherty said he did not believe South America would take the place of Mexico in oil production unless some now unknown fields were found. He believed, he said, the Venezuelan fields, while good producers, never would equal the record of the Mexican fields.

## Miley's Wildcatting Plans Include Texas and Colorado Tests

LOS ANGELES, Calif., July 3.—An exploration program contemplating the development of large acreage in California, Colorado, Texas and other petroleum districts, was launched with the announcement by E. J. Miley of the formation of the Miley Petroleum Exploration Co., a $5,000,000 corporation, organized to carry out a continuous campaign of petroleum exploration.

As the first step in the development program, Mr. Miley announced, work already has been started on a 2,100-acre tract in Ventura County, in the Red Mountain district, and the first well will be spudded in within the next week. Arrangements are being completed to drill a well on a tract embracing 2,250 acres near Galeta, 10 miles north of Santa Barbara, which has been favorably regarded by petroleum geologists for many years. Machinery and equipment are on the ground for a test well in the Red Mesa district in southwestern Colorado, near Durango, where the Miley company holds 2,700 acres.

In addition to the districts in California and Colorado, which are to be drilled immediately, the Miley company is negotiating for several large tracts in the Amarillo district of the Texas Panhandle, including a large acreage of proven territory. This region also will be drilled as soon as possible.

E. J. Miley has achieved fame as the driller of the world's deepest well, and the deepest producing well at Athens, south of Los Angeles. He is president of the Miley Oil Co., an operating and producing organization, which will work in conjunction with the Miley Petroleum Exploration Co. The primary purpose of the latter corporation is the exploration of unproven districts, but it will also undertake the development of proven territory.

## OUTLOOK SATISFACTORY, PAUL SHOUP'S OPINION

Paul Shoup, vice president of the Tide Water Associated Oil Co., says the outlook in California for the oil industry is satisfactory. Production is running this season fairly evenly, but is being maintained only through new developments in known fields, either of limited possibilities or well under control, as against flooding the market.

"No new field has been located this year; none that threatens the market is in prospect," he continued. "Unless some new discoveries are made a gradual decline in production is naturally anticipated, and under such a situation market prices should be firm.

"The field perhaps more than any other which has recently contributed to maintaining California production around 600,000 bbls. per day is the Ventura, a territory lying north of and adjoining the city of Ventura, on the Santa Barbara Channel. This field is substantially controlled by the Associated, Shell and General Petroleum companies."


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## Mexican Shipments During May Increase Million Over April

By George Blardone

TAMPICO, Mex., July 3.—Shipments of petroleum from Mexican ports of primary clearance during the month of May totaled 8,402,685 bbls., a decrease from the May, 1925 movement of 1,678,963 bbls. The past month's movement, however, was an increase over the movement in April last of 1,064,699 bbls. This heavy increase over April can be credited to Huasteca Petroleum Co., which, in dispatching 3,599,000 bbls., established a new monthly record for itself.

Tampico dispatched practically the entire movement, clearing some 8,398,349 bbls., Tuxpam only clearing bunker oil for one export steamer. Port Lobos has been no more since last year, it will be recalled.

The movement in detail follows:

**From Tampico**
**By Huasteca Petroleum Co.**

| May | Rig | Vessel | Destination | Bbls. |
|---|---|---|---|---|
| 1 | Ss. | Cerro Ebano, | New York | *76,920 |
| 1 | Ss. | G. W. Barnes, | Norfolk and Baltimore | †74,384 |
| 2 | Ss. | Mantilla, | Jacksonville | *54,151 |
| 2 | Ss. | C. A. Canfield, | Houston | *65,690 |
| 3 | Ss. | O. D. Bennett, | Jacksonville | *49,522 |
| 3 | Ss. | H. G. Wylie, | Tampa | *41,437 |
| 3 | Ss. | Madrono, | New Orleans | 25,870 |
| 3 | Ss. | Melpomene, | Harve | †74,572 |
| 4 | Ss. | Baldhill, | Mobile | *60,135 |
| 4 | Ss. | L. J. Drake, | Jacksonville | *55,539 |
| 5 | Ss. | E. L. Doheny, | Boston | *61,606 |
| 5 | Ss. | F. H. Wickett, | New York | *77,183 |
| 7 | Ss. | Pioneer, | Key West | *48,733 |
| 7 | Ss. | P. H. Harwood, | Portland | *65,888 |
| 7 | Ss. | C. E. Harwood, | Tampa and Jacksonville | †34,489 |
| 10 | Ss. | E. V. R. Thayer, | New Orleans | 69,913 |
| 10 | Ss. | C. A. Canfield, | Houston | *65,809 |
| 11 | Ss. | Kennebec, | Lizard f/o | *50,238 |
| 11 | Ss. | R. W. Stewart, | Providence | *78,638 |
| 13 | Ss. | Algonquin, | New York | *64,816 |
| 14 | Ss. | Inverurie, | Lizard f/o | *53,034 |
| 14 | Ss. | H. G. Wylie, | Fall River | *39,176 |
| 15 | Ss. | Meline, | Boston | *63,283 |
| 15 | Ss. | Wm. Green, | New Orleans | 69,570 |
| 16 | Ss. | Mantilla, | Jacksonville | *54,299 |
| 16 | Ss. | W. L. Steed, | Baltimore and New York | †73,790 |
| 17 | Ss. | J. O. Boyd, | Miami | †19,819 |
| 17 | Ss. | Invergordon, | Lizard f/o | *57,720 |
| 18 | Ss. | Montana, | New York | *63,440 |
| 18 | Ss. | W. H. Doheny, | Portland | *65,095 |
| 18 | Ss. | Malacca, | Philadelphia | *72,090 |
| 19 | Ss. | Cerro Azul, | Providence | *78,484 |
| 19 | Ss. | C. A. Canfield, | Houston | *56,206 |
| 20 | Ss. | Ardmore, | New York | *77,720 |
| 20 | Ss. | Mendocino, | Baltimore | 64,037 |
| 21 | Ss. | Mirlo, | New York | *64,740 |
| 21 | Ss. | G. W. Barnes, | Providence and New York | †74,998 |
| 22 | Ss. | O. D. Bennett, | Tampa | *47,801 |
| 23 | Ss. | Dist. Columbia, | New York | *69,083 |
| 23 | Ss. | Hugoton, | New York | *70,261 |
| 23 | Ss. | C. E. Harwood, | Norfolk and Jacksonville | †34,734 |
| 24 | Ss. | S. M. Spalding, | New Orleans | 68,469 |
| 24 | Ss. | Elisha Walker, | Boston | *69,022 |
| 25 | Ss. | J. M. Danziger, | New York | *68,801 |
| 26 | Ss. | Harold Walker, | New York | *68,209 |
| 26 | Ss. | G. G. Henry, | Boston | *65,400 |
| 27 | Ss. | F. R. Kellogg, | Baltimore | 64,734 |
| 28 | Ss. | Inverleith, | Lizar f/o | *56,764 |
| 28 | Ss. | Hoxbar, | New York | *69,690 |
| 28 | Ss. | Wm. Green, | New York | *67,873 |
| 29 | Ss. | Clement Smith, | New York | *71,921 |
| 29 | Ss. | P. H. Harwood, | Boston | *66,863 |
| 30 | Ss. | Mantilla, | Tampa | *51,850 |
| 31 | Ss. | C. A. Canfield, | Houston | *62,305 |
| 31 | Ss. | R. W. Stewart, | Providence | *78,806 |
| | | Coastwise deliveries | | *121,194 |
| | | Coastwise deliveries | | †9,386 |
| | | Visible bunker deliveries | | 72,805 |
| | | Total | | 3,599,005 |

**By Transcontinental Petroleum Co.**

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|---|---|---|---|---|
| 1 | Ss. | Hugoton, | New York | 38,503 |
| 1 | Ss. | Hugoton, | New York | †34,785 |
| 4 | Ss. | Agwilake, | New York | 80,381 |
| 5 | Ss. | Durango, | Porto Rico | *64,958 |
| 6 | Ss. | Hoxbar, | New York | 69,771 |
| 8 | Ss. | Agwiharve, | New York | 80,261 |
| 9 | Ss. | 6-Sulphur, | Cuba | 41,118 |
| 9 | Ss. | Halsey, | New York | 65,235 |
| 9 | Ss. | Clement Smith, | Baltimore | 69,712 |
| 10 | Ss. | Princeton, | Baton Rouge | 49,792 |
| 11 | Ss. | Malabar, | New York | 75,673 |
| 15 | Ss. | Dillwyn, | New York | 44,680 |
| 15 | Ss. | Dillwyn, | New York | †29,835 |
| 15 | Ss. | Muskogee, | New York | 66,929 |
| 17 | Ss. | L. J. Drake, | Charleston | 63,036 |
| 17 | Ss. | J. A. Bostwick, | Montreal | 77,137 |
| 18 | Ss. | Pioneer, | Cuba | 48,618 |
| 20 | Ss. | Agwimex, | New York | 87,518 |
| 21 | Ss. | Matinicock, | New York | 76,904 |
| 25 | Ss. | Agwilake, | New York | 81,508 |
| 26 | Ss. | Cecil County, | Baltimore | 70,806 |
| 27 | Ss. | Imlay, | Baltimore | 65,952 |
| 29 | Ss. | Halsey, | Baltimore | 70,333 |
| 31 | Ss. | Mevania, | Baltimore | 44,294 |
| 31 | Ss. | Mevania, | Baltimore | †32,602 |
| | | Bunker deliveries | | 78,004 |
| | | Total | | 1,608,345 |

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|---|---|---|---|---|
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| 7 | Ss. | San Leon, | Nassau f/o | *55,776 |
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| 11 | Ss. | Essex Abbey, | Santa Fe and La Plata | †37,383 |
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| 18 | Ss. | San Fraterno, | Nassau f/o | *102,894 |
| 18 | Ss. | Jelling, | Belize and P. Barrios | †5,715 |
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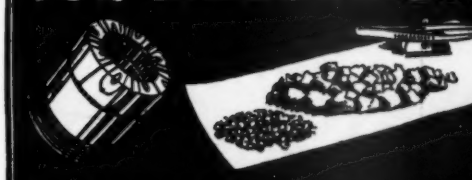

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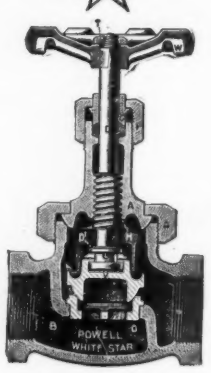


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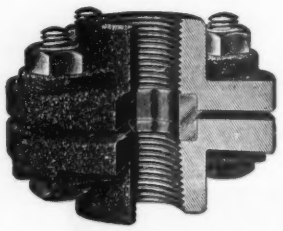

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| 27 | Ss. | San Leopoldo, Nassau | †25,714 |
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| 27 | Ss. | San Bamberto, Nassau f/o | *56,614 |
| 28 | Ss. | San Leonardo, Key West | *49,257 |
| 29 | Ss. | Mary Luckenbach, Jacksonville | *48,513 |
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| 29 | Ss. | Arundale, Brazil Ports | †29,658 |
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| 31 | Ss. | Silverbrook, Valencia | *40,424 |
| | | Coastwise deliveries | *100,637 |
| | | Coastwise deliveries | †833 |
| | | Bunker deliveries | 142,751 |
| | | Total | 1,446,304 |
| | | **By Mexican Sinclair Petroleum Corp.** | |
| 3 | Ss. | Gene Crawley, P. Barrios, C. A. | 29,869 |
| 6 | Ss. | W. L. Connelly, P. Castilla, C. A. | 29,463 |
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| 16 | Ss. | Gene Crawley, Matanzas | 30,977 |
| 17 | Ss. | Madrono, Havana | 56,131 |
| 19 | Ss. | A. E. Watts, Cienfuegos | 72,017 |
| 20 | Ss. | W. L. Connelly, New Orleans | 31,902 |
| 22 | Ss. | Mirita, Matanzas | 54,608 |
| 27 | Ss. | Harry Farnum, P. Barrios, C. A. | 29,697 |
| 29 | Ss. | Madrono, Tarafa and Nuevitas | 55,249 |
| 29 | Ss. | Gene Crawley, P. Limon, C. A. | 30,460 |
| | | Bunker deliveries | 19,814 |
| | | Total | 525,926 |
| | | **Cia. Mexicana-Holandesa La Corona, S. A.** | |
| 2 | Ss. | Cape Cod, Philadelphia | 66,067 |
| 9 | Ss. | San Joaquin, Nassau f/o | 59,116 |
| 10 | Ss. | Limicana, Nassau f/o | 49,639 |
| 12 | Ss. | Agwism, New York | 73,250 |
| 20 | Ss. | Aztec, New Orleans | 51,569 |
| 22 | Ss. | Huguenot, Nassau f/o | 56,398 |
| 28 | Ss. | San Zeferino, New Orleans | 59,197 |
| | | Coastwise deliveries | 12,125 |
| | | Bunker delieveries | 39,940 |
| | | Total | 467,301 |
| | | **By Mexican Gulf Oil Co.** | |
| 7 | Ss. | Gulfstate, Galveston | 60,384 |
| 14 | Ss. | Gulfoil, New Orleans | 47,562 |
| 22 | Ss. | Gulfoil, Galveston | 48,285 |
| | | Bunker deliveries | 1,554 |
| | | Total | 157,785 |
| | | **By Empire Gas & Fuel Co.** | |
| 8 | Ss. | Occidental, Port Arthur | 59,477 |
| 9 | Ss. | Hoven, Boston | 64,726 |
| | | Total | 124,203 |
| | | **By East Coast Oil Co.** | |
| 1 | Ss. | Torres, Galveston | 50,117 |
| 26 | Ss. | Torres, New Orleans | 51,184 |
| | | Bunker deliveries | 7,835 |
| | | Total | 109,136 |
| | | **By Panuco Boston Oil Co.** | |
| 11 | Ss. | Topila, Brunswick, Ga. | 40,057 |
| 26 | Ss. | Topila, Philadelphia | 49,339 |
| | | Total | 98,396 |
| | | **By La Espuela Oil Co.** | |
| 14 | Ss. | F-Sulphur 1, Freeport | 18,253 |
| 23 | Ss. | F-Sulphur 6, Freeport | 24,207 |
| 28 | Ss. | F-Sulphur 6, Freeport | 24,760 |
| 31 | Ss. | F-Sulphur 1, Freeport | 18,521 |
| | | Total | 85,741 |
| | | **By The Texas Company** | |
| 16 | Ss. | Georgia, Marcus Hook | 47,206 |
| | | Bunker deliveries | 3,047 |
| | | Total | 50,253 |
| | | **By Interocean Oil Co.** | |
| 31 | Ss. | Cassimir, New York | 45,846 |
| | | Bunker deliveries | 3,019 |
| | | Total | 48,865 |
| | | **By Mexican Athas Petroleum Co.** | |
| 17 | Ss. | Nelson, New York | 32,191 |
| | | Bunker deliveries | 3,666 |
| | | Total | 35,857 |
| | | **By Pierce Oil Corp.** | |
| 19 | Ss. | Wm. Isom, Baltimore | *28,780 |
| | | Bunker deliveries | 3,218 |
| | | Total | 31,998 |
| | | **By Mexican Oil Products Corp.** | |
| 17 | Ss. | Nelson, New York (top off) | 6,479 |
| | | Bunker deliveries | 2,755 |
| | | Total | 9,234 |

**FROM TUXPAM**

**By Mexican Eagle Oil Co., Ltd.**

| | |
|---|---|
| May Bunker deliveries | 4,336 |

**May Summary**

| From— | Bbls. |
|---|---|
| Tampico | 8,398,349 |
| Tuxpam | 4,336 |
| Total May, 1926 | 8,402,685 |
| Total May, 1925 | 10,081,648 |
| Decrease May, 1926 | 1,678,963 |

**Division of Movement**

| To— | Bbls. |
|---|---|
| United States | 5,902,808 |
| Cuba and West Indies | 1,061,263 |
| Coastwise | 244,175 |
| United Kingdom | 231,873 |
| South America | 231,114 |
| Central America | 156,575 |
| Continent | 114,996 |
| Canada | 77,137 |
| Bunkers (to balance) | 382,744 |
| Total | 8,402,685 |

**Classes**

| | |
|---|---|
| Crudes | 3,361,881 |
| Topped crudes | 3,946,893 |
| Distillates | 711,167 |
| Bunkers (to balance) | 382,744 |
| Total | 8,402,685 |

(Note: *Denotes topped crudes; †denotes distillates.)


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## POLAND MAY LEASE GOVERNMENT REFINERY

The news that Poland proposes to lease to private interests the government oil refinery is startling, yet it should not be surprising, says the London Oil News. It even appears to be dictated by sound business instinct. This establishment, one of the finest and largest in Europe, is situated at Drohobyez, near the principal Polish oil fields, and was established some 15 or 16 years ago as one of the steps to assist producers in a period of overproduction of oil of 1909-10. Since then it has been modernized, a paraffin wax plant has been added, and a high vacuum installation has been installed and is giving excellent results. The government obtains crude oil for its operations by means of the compulsory royalty in oil payable by producers. It can thus call upon some 20 per cent of the entire crude oil production for its needs.

The Polish Government and the firm of Nobels, who are representatives of the Standard Oil group in Poland, have agreed upon the terms of the lease. These are essentially very simple. For each cistern of crude oil treated a tribute of $10 shall be payable to the Polish Government. This is equivalent to $1 per metric ton. The lessees, as caution money, and as security for the important national property which shall be leased to them, are to deposit $1,000,000, but are to draw 5 per cent interest. The lease is for 10 years. It may be taken for granted that, without the compulsory crude oil levy of the Polish Government at its disposal, the Nobel group would not find it worth while to take over the lease of this excellent refining plant. At present the refinery treats from 8,000 to 10,000 tons of crude oil per month, or from 100,000 to 120,000 tons per annum. This is about half its capacity. The government makes a loss on this refinery every year; but if other crude oil, which the Nobel group has at disposal, can be added to the quantity now treated, the refinery would no doubt show a fair profit.

The Polish Government position would be improved by the lease in three respects. First it would receive a dollar per ton, or over $100,000 per annum. In the second place, as the government can use the $1,000,000 deposit to earn a larger interest than the 5 per cent per annum which it is to pay Nobels, it profits by any difference between 5 per cent and the interest which it can obtain on the money. Thirdly, the deficit on the operation of the Drohobyez refinery is wiped out.

Yet there are obstacles to the final ratification of the agreement by the Polish Parliament. One is the opposition of oil producers and oil refiners to this new competitor. The agreement would involve the transference to private hands, for 10 years, of the compulsory levy in kind of the royalty oil which is computed, at about 20 per cent of the entire oil production. The general staff of the Polish army may be expected to object to the transfer to foreign control of the operation of the national refining plant, which could at all events be relied upon for a considerable quantity of military material.

## CHAIRMAN OF SHELL ON YEAR'S BUSINESS

Walter H. Samuel, chairman of Shell Transport & Trading Co., at the annual meeting of stockholders explained the apparent expansion in profits of Royal Dutch Co., compared with the Shell Company as due to appreciation in sterling, causing an increase in dividends in terms of florins.

"Actual production of the Royal Dutch-Shell group declined in 1925, due mainly to decrease in Mexico and, to a lesser extent, in Rumania. Production of the group in Dutch East Indies, United States and Venezuela increased," he said. "Currency fluctuations in Europe were a constant anxiety and adversely affected

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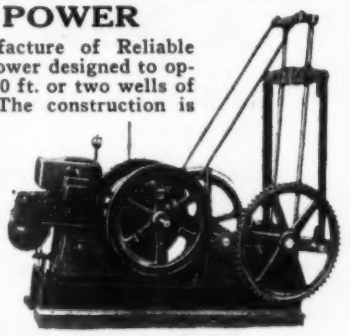

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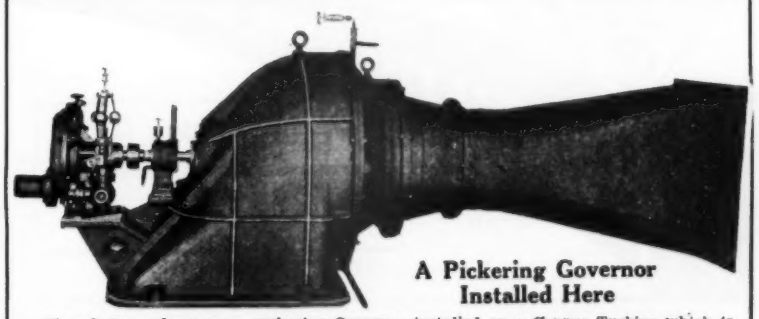

A Pickering Governor Installed Here

The photograph shows a Pickering Governor installed on a Coppus Turbine which is driving a re-circulating Vano Blower. This unit may be seen at the Roxana Petroleum Corp., Wood River, Ill.; Producers & Refiners Corp., Parco, Wyo.; Prudential Oil Corp., Baltimore, Md.
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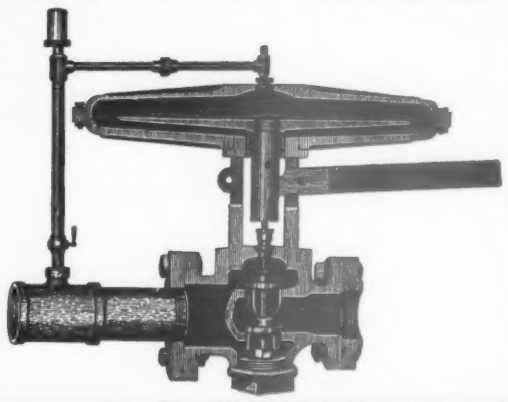

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"In 1925, our gasoline trade was over 50 per cent greater than our kerosene sales, against proportions of 60 per cent kerosene and 40 per cent gasoline in 1913. Sales of fuel oil in 1925 exceeded both kerosene and gasoline combined, although in 1913, this business was negligible. Consequent reconstruction of the marketing and chemical side of the business as a result of this change in the character of demand necessitated heavy capital outlay, reducing liquid assets £600,000.

"Shell Union Oil Co.'s production in 1925 was 5,636,000 tons, against 5,492,000 tons in 1924. Caribbean Petroleum Co. produced 952,000 tons in 1925, against 770,000 tons in 1924. Venezulean Oil Concessions, Ltd., produced 690,000 tons in 1925, against 392,000 tons in 1924, and, it is likely, will produce well over 1,000,000 tons in 1926. Production in the Dutch East Indies was 3,000,000 tons, against 2,800,000 in 1924. Improved drilling methods indicate a new lease of life for these fields. Sarawak production was maintained at over 600,000 tons.

"Results in Mexico were hampered by strikes but exploration results were by no means discouraging on properties of both Corona Petroleum Co. and Mexican Eagle Oil Co."

## SHUT-IN PRODUCTION IN CALIFORNIA HELPS

California is holding close to her average oil production of the last three years and is still shutting in between 50,000 and 70,000 bbls. a day, the average probably being close to 60,000 bbls. This quantity has been shut in since early in the summer of 1925 when Inglewood began its rapid climb in production.

By keeping upward of 60,000 bbls. of production per day shut in the ground, California operators, the Los Angeles Times says, are doing their share to assist the industry in getting back on to an even keel. The amount of production that is being held back in this state, instead of being turned into the storage tanks, would doubtless amount to 1,800,000 bbls. per month, and that goes a long way toward making it possible for the eastern part of the United States to empty up its storage at the rate of 4,000,000 bbls. a month.

Aside from the matter of stabilizing price by keeping consumption and production in close harmony there is another reason for using up considerable of the reserve supply of crude, and it is a very good reason. The oil companies have suffered $10,000,000 worth of fires this year. The loss was great, from the standpoint of oil, but that loss was intensified by the fact that insurance rates on oil were immediately raised. The upshot of it was that many of the oil companies decided that it would be wiser to leave the crude in the ground than store it and pay heavy insurance rates as protection against fires.

So long as there are no town-lot fields to drill in California the big operators can keep the situation well in hand and the industry will stand a good chance to reduce storage supply materially within the next few months. The operators seem to be fairly well agreed in the matter of delaying development in the new field west of the city of Huntington Beach, and there appears to be no immediate probability of developing the known deep zones at Inglewood and Dominguez.

California operators think that they are entitled to an increase in the price of crude within the next few weeks. The price situation is decidedly discouraging from a development standpoint in the San Joaquin Valley fields where the heavy oils are extensively produced. The price for such oil now is extremely low, the operators declare, and they are not disposed to drill new wells until there is a price adjustment which will leave them a profit for such development. Meanwhile the fields are quiet. This condition will perhaps be corrected as the summer grows older, operators think.

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Wickwire-Spencer Steel Corp.
Williamsport Wire Rope Co.

**Calf Rope—**
Ajax Rope Co., Inc.

**Calf Wheels—Steel—**
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

**Cannon—Oil Field—**
Braden Co.

**Cans—Water—**
Gott, H. P., Mfg. Co.

**Capping Steel—**
Andrews Steel Co.

**Carbon—Black Diamond—**
Diamond Drill Carbon Co.
Patrick, R. S.

**Cars—Tank—**
American Car & Foundry Co.
General American Tank Car Corp.
Shippers' Car Line, Inc.

**Cars—Tank, Leased—**
American Car & Foundry Co.
North American Car Co.
Shippers' Car Line, Inc.

**Casings—**
Bovaird Supply Co.
Central Tube Co.
Continental Supply Co.
Emsco Derrick & Equip. Co.
Jarecki Mfg. Co.
National Supply Co.
National Tube Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.
Wheeling Steel Corp.

**Casing—Wrought Iron—**
Byers, A. M., Co.
South Chester Tube Co.

**Casing Elevators (See Elevators, Casing and Tubing)—**

**Casing Heads—**
Arbon, Paul, & Co.
Dresser, S. R., Mfg. Co.
Kansas City Hay Press Co.
Oil Well Improvements Co.

**Casing Lines—**
Ajax Rope Co., Inc.
Hazard Mfg. Co.

**Casing Shoes—**
Baker Casing Shoe Co.
Bartlesville Supply Co.
Bridgeport Machine Co.
Guiberson Corp.
Oil Well Supply Co.

**Castings—Alloy Steel—**
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

**Castings—Brass—**
Progressive Brass Mfg. Co.

**Castings—Chrome Nickel Steel—**
Sivyer Steel Casting Co.

**Castings—Corrosion Resisting Non-Ferrous—**
Hills-McCanna Co.

**Castings—Electric Steel—**
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

**Castings—Grey Iron—**
Ajax Iron Works.
American Car & Foundry Co.
Gaso Pump & Burner Mfg. Co.
Pittsburgh Boiler & Machine Co.

**Castings—Steel—**
Ajax Iron Works.
Chicago Steel Foundry Co.
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

**Cement—Fire and High Temperature—**
Botfield Refractories Co.
General Insulating & Mfg. Co.

**Chains—Conveying—**
Chain Belt Co.
Link-Belt Co.

**Chains—Oil Well—**
Baldwin Chain & Mfg. Co.
Link-Belt Co.

**Chains—Power Transmission—**
Baldwin Chain & Mfg. Co.
Chain Belt Co.
Link-Belt Co.

**Chemical Treatment Crude Oil Emulsion—**
Barnickel, Wm. S., & Co.

**Chlorine—Liquid—**
Mathieson Alkali Works, Inc.

**Circulating Heads—**
Wilson Oil Tools Corp.

**Clamps—Anchor—**
Bartlesville Supply Co.

**Clamps—Belt—**
Federal Supply Co.
Victor Balata & Textile Belting Co.

**Clamps—Collar Leak—**
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

**Clamps—Drilling—**
Western Supply Co.

**Clamps—Holding—**
Newton Process Mfg. Co.

**Clamps—Pipe—**
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.
Wheatley Bros. Machine Works.

**Clamps—River—**
Dresser, S. R., Mfg. Co.
Gaso Pipe & Burner Mfg. Co.

**Cloths—Wiping—**
Nye Tool & Machine Works.

**Clutches—Friction, Plate Type—**
Twin Disc Clutch Co.

**Cocks—Brass & Iron—**
Lunkenheimer Co.
Walworth Co.

**Cocks—Plug—**
Homestead Valve Mfg. Co.

**Cocks—Water Gauge—**
Shaffer, J. E., Co.
Smith Separator Co.

**Coils and Bends—Pipe—**
Harrisburg Pipe & Pipe Bending Co.
Midwest Piping Supply Co.

**Compounds—Boiler—**
Dearborn Chemical Co.

**Compounds—Cement Quick Setting—**
Sullivan Co.

**Compounds—Joint Sealing—**
Key Boiler Equipment Co.

**Compounds—Oil Well Cleaning—**
Sullivan Co.

**Compressed Air Process—**
Air Cleaning & Reaming Corp.

**Compressor Cylinders (See Cylinders—Compressor)—**

**Compressors—Air—**
Bessemer Gas Engine Co.
Clark Brothers Co.
Cooper, C. & G., Co.
Gardner Governor Co.
Ingersoll-Rand Co.
Sullivan Machinery Co.

**Compressors—Ammonia—**
Carbondale Machine Co.
Cooper, C. & G., Co.

**Compressors—Direct Connected Motor and Gas Engine Driven**
Buffalo Gasolene Motor Co.
Clark Brothers Co.
Cooper, C. & G., Co.
Miller Improved Gas Engine Co.

**Compressors—Direct Driven Air and Gas—**
Bessemer Gas Engine Co.
Miller Improved Gas Engine Co.

**Compressors—Gas—**
Bessemer Gas Engine Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Cooper, C. & G., Co.
Hope Engineering & Supply Co.
Ingersoll-Rand Co.
National Transit Pump & Machine Co.
Worthington Pump & Machinery Corp.

**Compressors—Oil—Coke—**
Porter & Company.

**Condenser Boxes—**
Kaw Steel Construction Co.
Petroleum Iron Works Co.

**Condensers—**
American Radiator Co.
Chicago Pneumatic Tool Co.
National Gas Products Co.
Ross Heater & Mfg. Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.

**Controllers—Automatic—**
Brown Instrument Co.

**Controllers—Liquid Level—**
Fisher Governor Co., Inc.
Newton Process Mfg. Co.
Smith Separator Co.

**Controllers—Pressure—**
Smith Separator Co.

**Controllers—Temperature—**
Foxboro Co., Inc.
Taylor Instrument Co.

**Conveying & Elevator Machinery**
Brady Conveyors Corp.

**Conveyors—Bucket and Belt—**
Brady Conveyors Corp.

**Conveyors—Pneumatic—**
Brady Conveyors Corp.

**Conveyors—Portable Belt—**
Barber-Greene Co.

**Cooling Towers—Atmospheric—**
Braun, C. F., & Co.
National Gas Products Co.

**Cordage—**
Bridgeport Machine Co.
International Supply Co.
Plymouth Cordage Co.

**Core Drilling—**
Longyear, E. J., Co.
Mineral Exploration Co.

**Core Drills—**
Elliott Core Drilling Co.

**Core Drills—Diamond—**
Longyear, E. J., Co.
Sullivan Machinery Co.

**Coring Tools—**
Reed Roller Bit Co.
Wilson Oil Tools Corp.

**Couplings—Flexible—**
Nuttall, R. D., & Co.
Victaulic Co. of America.

**Couplings—Plain End Pipe—**
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

**Couplings—Seamless Steel—**
Harrisburg Pipe & Pipe Bending Co.
Superior Tube Co.

**Couplings—Steel for Casing, Line Pipe, Drill Pipe and Tubing—**
Dayton Pipe Coupling Co.
Smith, A. O., Corp.

**Cracking Processes—**
Graver Corp.
Kellogg, M. W., Co.
Universal Oil Products Co.

**Crawler Treads—**
Belle City Mfg. Co.
Full Crawler Co.

**Crown Blocks—**
International Derrick & Equipment Co.
Lucey Mfg. Corp.
Moore, Lee C., & Co., Inc.
Parkersburg Rig & Reel Co.

**Cups—Composition—**
Williamsport Development Co.

**Cups—Leather—**
Auer, C. A.

**Cutters—Pipe—**
Borden Co.
Nye Tool & Machine Works.
Trimont Mfg. Co.

**Cylinders—Compressor—**
Hope Engineering & Supply Co.

**Cylinder Stocks—**
Barnsdall Refining Co.
Pure Oil Co.
Texas Company, The.

### D

**Dehydrating Process—**
Barnickel, Wm. S., & Co.

**Dephlegmators—**
Graver Corp.
National Gas Products Co.
Newton Process Mfg. Co.
Smith, A. O., Corp.

**Depletion Reports—**
American Appraisal Co.

**Derricks—Steel—**
Emsco Derrick & Equip. Co.
International Derrick & Equipment Co.
Marion Mch., Fdy. & Supply Co.
Moore, Lee C., & Co., Inc.
O'Brien Steel Construction Co.
Parkersburg Rig & Reel Co.
Superior Tube Co.

**Derricks—Turnbuckle—**
National Turnbuckle Derrick Co.

**Diamonds for Core Drilling (See Carbon—Black Diamond)—**

**Die Heads—Bolt Threading—**
Bignall & Keeler Mch. Works.
Landis Machine Co.

**Die Heads—Stationary Pipe Threading—**
Bignall & Keeler Mch. Works.
Cox & Sons Co., The.
Landis Machine Co.

**Diesel Engines (See Engines)—**

**Dies—Pipe Threading—**
Bignall & Keeler Mch. Works.
Cox & Sons Co., The.
Landis Machine Co.
Nye Tool & Machine Works.

**Direct Driven Pumps (See Pumps)**

**Disc Bits (See Bits—Disc)—**

**Dissolved Acetylene (See Acetylene)—**

**Ditchers—Pipe Line—**
Barber-Greene Co.
Buckeye Traction Ditcher Co.

**Draw Works—**
Lucey Mfg. Corp.
National Supply Co.
Titusville Iron Works Co.

**Drillers Hose (See Hose)—**

**Drilling and Fishing Tools—**
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bovaird & Seyfang Mfg. Co.
Bovaird Supply Co.
Bridgeport Machine Co.
Brown Tool Co., Inc.
Burns Tool Co.
Continental Supply Co.
Cushing, Tim, Tool & Supply Co.
Emsco Derrick & Equip. Co.
General Oil Tools Co.
Hinderliter Tool Co.
Hughes Tool Co.
International Supply Co.
Larkin & Co.
Leidecker Tool Co.
Lucey Mfg. Corp.
Murray Tool & Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Spang & Co.
Star Drilling Machine Co.
U. S. Tool Co.

**Drilling Engines (See Engines)—**

**Drilling Equipment—**
Clark Brothers Co.
Hughes Tool Co.
O'Brien Steel Construction Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Star Drilling Machine Co.

**Drilling Machines—**
Leidecker Tool Co.
Oil Well Supply Co.
Star Drilling Machine Co.

**Drilling Tools (See Drilling and Fishing Tools)—**

**Drilling Valves (See Valves)—**

**Drills—Portable Air—**
Chicago Pneumatic Tool Co.

**Drive Shoes—**
Bartlesville Supply Co.
Larkin & Co.

**Drop-Forged Wrenches (See Wrenches)—**

**Drops and Seats—**
Norris Brothers, Inc.

**Drums (See Barrels)—**

**Dynamos—**
Westinghouse Electric & Mfg. Co.

### E

**Electrical Equipment—**
Fairbanks-Morse & Co.
Pyle National Co.
Wico Electric Co.

**Electrical Apparatus (See Apparatus—Electric)—**

**Electric Drilling Equipment—**
Lucey Mfg. Corp.
Westinghouse Electric & Mfg. Co.

**Electric Steel Castings (See Castings—Electric—Steel)—**

**Elevators—Casing and Tubing—**
Bovaird Supply Co.
Bridgeport Machine Co.
Dunn Mfg. Co.
Lucey Mfg. Corp.
Oil Well Supply Co.
Wilson Oil Tools Corp.

**Elevators—Rod—**
B. & A. Specialty Co.
D. & B. Pump & Supply Co.
Dunn Mfg. Co.

**Enamels—**
Arco Company, The.
Detroit Graphite Co.
Sherwin-Williams Co.

**Engineers—Consulting and Contracting—**
Brooks Engineering Corp.
Hope Engineering & Supply Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
National Petroleum Engineering Corp.
Power Specialty Co.
Westcott & Greis.
Widdell Engineering Co.

**Engineers—Fire Protection—**
Brooks Engineering Corp.
Foamite-Childs Corp.

**Engineers—Oil Buildings—**
Austin Co.
International Derrick & Equipment Co.

**Engineers—Oil Treating—**
Barnickel, Wm. S., & Co.
National Gas Products Co.

**Engines—Crude Oil—**
Continental Supply Co.
Western Machinery Co.

**Engines—Diesel—**
Bessemer Gas Engine Co.
Busch-Sulzer Bros. Diesel Engine Co.
Foos Gas Engine Co.
McIntosh & Seymour Corp.
Western Machinery Co.
Worthington Pump & Machinery Corp.

**Engines—Drilling—**
Ajax Iron Works
Beaver Manufacturing Co.
Bessemer Gas Engine Co.
Bovaird & Seyfang Mfg. Co.
Brownell Co., The
Buda Co.
Buffalo Gasolene Motor Co.
Clark Bros. Co.
Climax Engineering Co.
Franklin Valveless Engine Co.
Hercules Motor Corp.
Pattin Bros. Co.
Power Mfg. Co.
Republic Supply Co.
Titusville Iron Works Co.

**Engines—Gas—**
Beaver Manufacturing Co.
Bessemer Gas Engine Co.
Bruce-MacBeth Engine Co.
Buda Co.
Buffalo Gasolene Motor Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Climax Engineering Co.
Continental Supply Co.
Cooper, C. & G., Co.
Emsco Derrick & Equipment Co.
Foos Gas Engine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering & Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Jones, S. M., Co.
Marion Mch. Fdy. & Supply Co.
Miller Improved Gas Engine Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pattin Bros. Co.
Reid, Joseph, Gas Engine Co.
Titusville Iron Works Co.
Waukesha Motor Co.
Western Machinery Co.

**Engines—Gasoline—**
Beaver Manufacturing Co.
Buda Co.
Buffalo Gasolene Motor Co.
Continental Motors Corp.
Fairbanks-Morse & Co.
Hercules Motor Corp.
International Harvester Co. of America.
Waukesha Motor Co.
Western Machinery Co.

**Engines—Oil—**
Bessemer Gas Engine Co.
De La Vergne Machine Co.
Fairbanks-Morse & Co.
Frank Valveless Engine Co.
International Harvester Co. of America.
Ingersoll-Rand Co.
McIntosh & Seymour Corp.
National Supply Co.
Oil Well Supply Co.
Power Mfg. Co.
Reid, Joseph, Gas Engine Co.
Western Machinery Co.

**Engines—Semi-Diesel, Oil—**
Chicago Pneumatic Tool Co.

**Engines—Steam—**
Ajax Iron Works
Frick-Reid Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.

**Evaporators—**
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.

**Extinguishers—Fire—**
Foamite-Childs Corp.

## F

**Fabricators for Gasoline Plants and Refineries—**
National Gas Products Co.
Stearns-Roger Mfg. Co.

**Filters—Oil—**
Burt Mfg. Co.

**Fishing Tools (See Drilling and Fishing Tools)—**

**Fittings—Dropped Forged Steel—**
Vogt, Henry, Machine Co.

**Fittings—Forged Steel**
Central Forging Co.

**Fittings—Malleable & Cast Iron—**
Bovaird Supply Co.
Crane Co.
Frick-Reid Supply Co.
Walworth Co.

**Fittings—Pipe—**
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.
Gaso Pump & Burner Mfg. Co.
Jarecki Mfg. Co.
Kellogg, M. W., Co.
Kennedy Valve Mfg. Co.
Metric Metal Works.
Oil Well Supply Co.
Reading Steel Casting Co.
Republic Supply Co.
United Iron Works, Inc.
Victaulic Co. of America.
Walworth Co.

**Fittings—Steel—**
Dayton Pipe Coupling Co.
Kerotest Mfg. Co.
Ohio Steel Foundry Co.
Walworth Co.

**Flanges—Brass, Iron and Steel—**
Jefferson Union Co.
Metric Metal Works.
Walworth Co.

**Flange Unions—**
**Gaso Pump & Burner Mfg. Co.**
**Wheatley Bros. Machine Works**

**Flashlights—**
National Carbon Co.

**Floating Roofs and Decks—**
Chicago Bridge & Iron Works.

**Floodlights—**
Pyle-National Co.

**Forging Billets—**
Andrews Steel Co.
Harrisburg Pipe & Pipe Bending Co.
Heppenstall Forge & Knife Co.

**Forgings—**
Champion Machine & Forging Co.

**Fuel Oil (See Oil—Fuel)—**

**Fuller's Earth—**
Sinclair Refining Co.

## G

**Gas Holders—**
Chicago Bridge & Iron Works.

**Gaskets—**
Garlock Packing Co.
McCord Radiator & Mfg. Co.

**Gaskets—Fibre—**
Durabla Mfg. Co.

**Gas Masks & Safety Appliances—**
Mine Safety Appliance Co.

**Gasoline—**
Berry's, James B., Sons Co.
Crown Central Petroleum Co.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.

**Gasoline—Natural—**
Chestnut & Smith Corp.
National Gas Products Co.
Skelly Oil Co.
Warren Petroleum Co.

**Gasoline Plant Equipment—**
Bessemer Gas Engine Co.
Clark Brothers Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.
Widdell Engineering Co.

**Gas Regulator Casinghead—**
Davis, G. M., Regulator Co.
National Gas Products Co.

**Gas Scrubbers—**
National Gas Products Co.
Newton Process Mfg. Co.

**Gauge Glass—High Pressure—**
Durabla Mfg. Co.

**Gauge Poles—**
Marsh Gauge Pole Co.

**Gauges—Automatic Tank—**
Brooks Engineering Co.

**Gauges—Draft—**
Brown Instrument Co.

**Gauges—Pressure and Vacuum—**
Bristol Co.
Brown Instrument Co.
Equitable Meter & Mfg. Co.
Metric Metal Works.

**Gauges—Test—**
Equitable Meter & Mfg. Co.
Metric Metal Works.

**Gear Driven Pumps (See Pumps)**

**Gears—Cut—**
Nuttall, R. D., & Co.

**Gears—Reduction—**
Emsco Derrick & Equipment Co.
Nuttall, R. D., & Co.

**Gears—Reverse—**
Emsco Derrick & Equipment Co.

**Generators—**
Westinghouse Electric & Mfg. Co.

**Generators—Acetylene—**
Oxweld Acetylene Co.

**Generators—Turbine—**
Moon Manufacturing Co.
Pyle-National Co.
Westinghouse Electric & Mfg. Co.

**Glassware—Chemical for Laboratory Use—**
Illinois Glass Co.

**Governors—**
Equitable Meter & Mfg. Co.
Gardner Governor Co.

**Governors—Boiler Feed—**
Chaplin-Fulton Mfg. Co.
Fisher Governor Co.

**Grey Iron Castings (See Castings)**

## H

**Hammers—Chipping and Caulking Pneumatic—**
Chicago Pneumatic Tool Co.

**Hammers—Riveting Pneumatic—**
Chicago Pneumatic Tool Co.

**Hangers—Iron and Steel—**
Continental Supply Co.
Dodge Mfg. Corp.

**Hangers—Tubing—**
Hercules Tool Co.

**Hatches—Gauges and Thief—**
Oil Conservation Engineering Co.

**Heat Exchangers—**
Carbondale Machine Co.
Griscom-Russell Co.
Hope Engineering & Supply Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.

**Heat Exchangers—Fluid—**
Braun, C. F., & Co.
Ross Heater & Mfg. Co., Inc.

**Hoists—Pneumatic, Geared and Universal—**
Chisholm-Moore Mfg. Co.
Yale & Towne Mfg. Co.

**Hoists—Portable—**
Chisholm-Moore Mfg. Co.
Ford Chain Block Co.
Sullivan Machinery Co.
Wright Mfg. Co.
Yale & Towne Mfg. Co.

**Hooks for Rods and Tubing—**
B. & A. Specialty Co.
Dunn Mfg. Co.

**Hose—**
Fenwick-Reddaway Mfg. Co.

**Hose—Drillers—**
Goodrich, B. F., Rubber Co.
United States Rubber Co.

**Hose—Oil Suction and Discharge**
Goodrich, B. F., Rubber Co.
United States Rubber Co.

**Hose—Rubber—**
Goodyear Tire & Rubber Co.
United States Rubber Co.

**Hypochlorite of Lime—**
Mathieson Alkali Works, Inc.

## I

**Injectors—**
Penberthy Injector Co.

**Inspectors—Pipe—**
Hunt, Robert W., Co.

**Insulation Materials—**
Celite Products Co.
General Insulating & Mfg. Co.
Johns-Manville, Inc.

**Insurance—Fire—**
Oil Insurance Association

**Insurance—Tornado—**
Oil Insurance Association.

**Iron—Ingot—**
American Rolling Mill Co.

## J

**Jacks—Hydraulic—**
Bridgeport Machine Co.

**Jacks—Lifting—**
Templeton, Kenly & Co., Ltd.

**Jacks—Pumping—**
American Mfg. Co. of Texas.
American Wells Works.
Bessemer Gas Engine Co.
Braden Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Hay Press Co.
Norris, W. C.
Spang & Co.

**Jars—**
Arbon, Paul, & Co.
Bridgeport Machine Co.
Spang & Co.

**Jar Steel—**
Andrews Steel Co.
Heppenstall Forge & Knife Co.

## K

**Kerosene—**
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.

## L

**Lacquers—**
Arco Company, The
Sherwin-Williams Co.

**Lanterns—Electric—**
Delta Electric Co.

**Lead and Mixed Metal Products—**
Eagle-Picher Lead Co.

**Lead in Oil—**
Eagle-Picher Lead Co.
National Lead Co.

**Lead Wool and Containers—**
Eagle-Picher Lead Co.

**Lighting Equipment—**
Pyle National Co.
Westinghouse Electric & Mfg. Co.

**Litharge—**
Eagle-Picher Lead Co.
National Lead Co.

**Loaders—Trucks—**
Barber-Greene Co.

**Long Distance Telephone—**
American Telephone & Telegraph Co.

**Lubricating Devices—**
McCord Radiator & Mfg. Co.

**Lubricators—**
Ajax Iron Works.
Lunkenheimer Co.

**Lubricators—Force Feed—**
Hills-McCanna Co.
Manzel Brothers Co.
McCord Radiator & Mfg. Co.

## M

**Machine Tools—**
Ryerson, Jos. T., & Sons, Inc.

**Manholes—Tank—**
Brooks Engineering Corp.

**Manifolds—**
Reid, Joseph, Gas Engine Co.

**Meters—Gas—**
Equitable Meter & Mfg. Co.
Foxboro Co., Inc.
Metric Metal Works.
Pittsburgh Meter Co.
Roots, P. H. & F. M., Co.
Westcott & Greis.

**Meters—Electric—**
Brown Instrument Co.

**Meters—Gasoline—**
Pittsburgh Meter Co.

**Meters—Oil—**
Pittsburgh Meter Co.

**Molded Goods—Rubber—**
Goodyear Tire & Rubber Co.

**Motors—Electric—**
Fairbanks-Morse & Co.
Westinghouse Electric & Mfg. Co.

**Motors—Gasoline (See Engines—Gasoline)—**

## N

**Naphtha—**
Pure Oil Co.

**Natural Gasoline (See Gasoline—Natural)—**

**Natural Gasoline Plant Equipment**
Campbell, J. A.
Cooper, C. & G. Co.
Griscom-Russell Co.
National Gas Products Co.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
Smith Separator Co.
Westcott & Greis.

**Nitrogen—**
Linde Air Products Co.

**Nozzles—Spray—**
Power Plant Equip. Co.

## O

**Oil and Gas Pipe Line Construction—**
Hope Engineering & Supply Co.

**Oil Burners (See Burners—Oil)—**

**Oil Field Equipment—**
Baker Casing Shoe Co.
Bridgeport Machine Co.
Gaso Pump & Burner Mfg. Co.
International Derrick & Equipment Co.
Iron King Mfg. Co.
Kaw Steel Construction Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Reid, Joseph, Gas Engine Co.
Republic Supply Co.
Simplex Equipment Co.
Trumble Gas Trap Co.

**Oil—Fuel—**
Crown Central Petroleum Corp.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Texas Company, The

**Oil—Gas—**
Crown Central Petroleum Corp.
Gulf Refining Co.
Pure Oil Co.
Sinclair Refining Co.
Texas Company, The

**Oil—Lubricating—**
Barnsdall Refining Co.
Berry's, James B., Sons Co.
Crown Central Petroleum Corp.
Empire Refineries, Inc.
Gulf Refining Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Pennzoil Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.
Texas Company, The

**Oil—Tractor—**
Barnsdall Refining Co.
Gulf Refining Co.
Pennzoil Co.
Pure Oil Co.
Skelly Oil Co.

**Oiling Devices—**
Lunkenheimer Co.

**Oil Meters (See Meters)—**

**Oil Piping Equipment (See Fittings)—**

**Oil Reclaiming Process—**
Barnickel, Wm. S., & Co.
Houston Pump & Supply Co.

**Oil Well Cementing—**
Halliburton Oil Well Cementing Co.

**Oil Well Tools—**
D & B Pump & Supply Co.
Hinderliter Tool Co.
Reed Roller Bit Co.
Titusville Forge Co.
U. S. Tool Co.

**Over Shots—**
Reed Roller Bit Co.
Regan Forge & Engineering Co.

**Oxygen—**
Linde Air Products Co.

## P

**Packer Release—**
Acme Fishing Tool Co.

**Packers—**
Goodyear Tire & Rubber Co.
Guiberson Corp.
Larkin & Co.
Layne & Bowler Co.
Meier, E. C., Lubricating Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Spang & Co.
United States Rubber Co.

**Packing—**
Crane Packing Co.
Durabla Mfg. Co.
Garlock Packing Co.
Goodrich, B. F., Rubber Co.
Imperial Belting Co.
Johns-Manville, Inc.

**Packing—Metallic—**
Crane Packing Co.

**Paint Guns—**
Binks Spray Equipment Co.

**Painting Equipment—Mechanical**
Brown Instrument Co.
Matthews, W. N., Corp.

**Paints—**
Aluminum Co. of Ameica
American Asphalt Paint Co.
Arco Company, The
Cook Paint & Varnish Co.
Detroit Graphite Co.
Dixon, Joseph, Crucible Co.
Du Pont de Nemours, E. I. & Co., Inc.
Eagle-Picher Lead Co.
Eclipse Paint & Mfg. Co.
Hill, Hubbell & Co.
National Lead Co.
Sherwin-Williams Co.
St. Louis Surfacer & Paint Co.

**Pipe—Cast Iron—**
Greenspon's Jos., Sons Iron & Steel Co.
International Supply Co.
U. S. Cast Iron Pipe & Fdy. Co.

**Pipe—Lead Chemical and Anti-Monial—**
Eagle-Picher Lead Co.

**Pipe—Steel—**
Central Tube Co.
Continental Supply Co.
Greenspon's Jos., Sons Iron & Steel Co.
Jarecki Mfg. Co.
Kellogg, M. W., Co.
Murray Teol & Supply Co.
National Supply Co.
National Tube Co.
Republic Iron & Steel Co.
Ryerson, Jos. T., & Sons, Inc.
South Chester Tube Co.
Spang Chalfant & Co., Inc.
Superior Tube Co.
Wheeler Steel Corp.

**Pipe—Wrought Iron—**
Byers, A. M., Co.
Frick-Reid Supply Co.
Greenspon's, Jos., Sons Iron & Steel Co.
Oil Well Supply Co.
Reading Iron Co.
South Chester Tube Co.
Superior Tube Co.

**Pipe and Nipple Threading Machines—**
Bignall & Keeler Machine Works.
Cox & Sons Co., The
Landis Machine Co.
Ryerson, Jos. T., & Sons, Inc.

**Pipe Clamps (See Clamps—Pipe)**

**Pipe Grips—**
Larkin & Co.

**Pipe Headers—**
National Tube Co.
Newton Process Mfg. Co.

**Pipe Line Coatings—**
Hill, Hubbell & Co.

**Pipe Line Construction Tools—**
National Transit Pump & Machine Co.

**Pipe Line Equipment—**
Wheatley Bros. Machine Works
Gaso Pump & Burner Mfg. Co.

**Pipe Screwing Machines—**
Buckeye Traction Ditcher Co.

**Pipe Straightening Machines—**
W-K-M Co., Inc.

**Pipe Suspension Device—**
Stearns-Roger Mfg. Co.

**Pipe Threaders—Power—**
Williams Tool Corp.

**Pipe Tools—**
Armstrong Brothers Tool Co.
Nye Tool & Machine Works
Walworth Co.

**Piping—Fabricated—**
Midwest Piping & Supply Co.

**Piping—Hard Rubber—**
United States Rubber Co.

**Piping—Steel & Iron—**
Crane Co.
Greenspon's, Jos., Sons Iron & Steel Co.
Power Piping Co.

**Pistons—**
Guiberson Corp.
Heppenstall Forge & Knife Co.

**Pistons—Expansion—**
Wilson Oil Tools Corp.

**Pistons—Slush Pump—**
Guiberson Corp.

**Plugs—Bottom Water—**
Guiberson Corp.

**Pre-Heaters—**
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.

**Preservatives—Asphalt—**
American Asphalt Paint Co.

**Pulleys—Wood, Iron and Steel—**
Continental Supply Co.
Dodge Mfg. Co.

**Pulling Machines—**
Iron King Mfg. Co.
National Supply Co.
Safety Pulling Machine Co.

**Pumpers—Long Stroke—**
Farley Machine Co.

**Pumping and Pulling Motors—Electric—**
Westinghouse Electric & Mfg. Co.

**Pumping Equipment—**
American Well Works.
Axelson Machine Co.
Bryson Jackson Pump Mfg. Co. Inc.
D & B Pump & Supply Co.
Farley Machine Co.
Goulds Pumps, Inc.
Jones, S. M., Co.
Myers, F. E., & Bros. Co.
Northrup Equipment Co.
Oil Well Supply Co.
Prescott Co.
Ratigan, J. P., Co.
Waukesha Motor Co.

**Pumping Gear Units—**
Nuttall, R. D., & Co.

**Pumping Powers—**
Bessemer Gas Engine Co.
Buda Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Hay Press Co.
Marion Mch., Fdy. & Supply Co.
National Supply Co.
Oil Well Supply Co.
Pattin Bros. Co.
Reid, Joseph, Gas Engine Co.
Spence Machine Co.
Titusville Iron Works Co.

**Pumps—Boiler Feed—**
Ajax Iron Works.
Byron Jackson Pump Mfg. Co., Inc.
Fairbanks-Morse & Co.
Gardner Governor Co.
Goulds Pumps, Inc.
Oil Well Supply Co.
Smith Separator Co.

**Pumps—Centrifugal—**
American Well Works.
Byron Jackson Pump Mfg. Co., Inc.
Dean Hill Pump Co.
Fairbanks-Morse & Co.
Goulds Pumps, Inc.
Smith Separator Co.
Worthington Pump & Machinery Corp.

**Pumps—Direct Driven—**
Bessemer Gas Engine Co.
Smith Separator Co.

**Pumps—Electric—**
Prescott Co.
Smith Separator Co.

**Pumps—Fuel Oil Service—**
Blackmer Pump Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.
Smith Separator Co.

**Pumps—Fuel Oil Transfer—**
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.

**Pumps—Gasoline and Oil for Filling Stations—**
Gilbert & Barker Mfg. Co.

**Pumps—Gear Driven—**
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
Prescott Co.
Smith Separator Co.

**Pumps—Hot Oil—**
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Goulds Pumps, Inc.
Smith Separator Co.

**Pumps—Pipe Line—**
Byron Jackson Pump Mfg. Co., Inc.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
National Transit Pump & Machine Co.
Prescott Co.
Wheatley Bros. Machine Works
Worthington Pump & Machinery Corp.

**Pumps—Portable—**
Gaso Pump & Burner Mfg. Co.

**Pumps—Power—**
Dean Brothers Co.
Fairbanks-Morse & Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Myers, F. E., Bro. & Co.
National Transit Pump & Machine Co.
Prescott Co.
Smith Separator Co.
Waukesha Motor Co.

**Pumps—Refinery—**
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Dean Hill Pump Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
National Transit Pump & Machine Co.
Northern Fire Apparatus Co.
Smith Separator Co.

**Pumps—Rotary—**
Blackmer Pump Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.
Roots, P. H. & F. M., Co.

**Pumps—Sand—**
Bridgeport Machine Co.
Larkin & Co.
Smith Separator Co.

**Pumps—Slush—**
Gardner Governor Co.

**Pumps—Steam—**
Dean Brothers Co.
Fairbanks-Morse Co.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Prescott Co.
Smith Separator Co.

**Pumps—Suction—**
Gaso Pump & Burner Mfg. Co.

**Pumps—Vacuum—**
Bessemer Gas Engine Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Gaso Pump & Burner Mfg. Co.
Miller Improved Gas Engine Co.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
Smith Separator Co.

**Pumps—Water—**
American Well Works.
Byron Jackson Pump Mfg. Co., Inc.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.
Prescott Co.
Smith Separator Co.

**Punch—Rotary Belt—**
Victor Balata & Textile Belting Co.

**Purifiers—Oil Absorption—**
Sharples Specialty Co.

**Pyrometers—**
Brown Instrument Co.
Republic Flow Meters Co.

## R

**Ratchet Pipe Cutters—**
Toledo Pipe Threading Machine Co.

**Ratchet Pipe Threaders—**
Nye Tool & Machine Works
Toledo Pipe Threading Machine Co.

**Receiving Boxes—**
Reid, Joseph, Gas Engine Co.

**Recorders—Differential Pressure—**
Equitable Meter & Mfg. Co.
Metric Valve Works.

**Refinery Equipment—**
American Radiator Co.
Blaw-Knox Co.
Braun, C. F., & Co.
Carbondale Machine Co.
Chicago Bridge & Iron Works.
Cross Engineering Co.
Graver Corp.
Griscom-Russell Co.
Kellogg, M., W. Co.
McKee, Arthur G., & Co.
Newton Process Mfg. Co.
Petroleum Appliance Co.
Petroleum Iron Works Co.
Power Piping Co.
Power Specialty Co.
Reid, Joseph, Gas Engine Co.
Ross Heater & Mfg. Co., Inc.
Ross-Meehan Foundries.
Smith, A. O., Corp.
Smith Separator Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.
United Iron Works, Inc.
Universal Oil Products Co.
Vogt, Henry, Machine Co.
Walsh & Weidner Boiler Co.
Westcott & Greis.
Widdell Engineering Co.

**Refractories—Furnace, Stills and Baffles—**
Botfield Refractories Co.
National Gas Products Co.

**Refrigerating Machinery—**
Carbondale Machine Co.
United Iron Works, Inc.
Vogt, Henry, Machine Co.

**Regulators—**
Fisher Governor Co.
Gilfillan Machine Works.
Smith Separator Co.

**Regulators—Gas—**
Chaplin-Fulton Mfg. Co.
Davis, G. M., Regulator Co.
Equitable Meter & Mfg. Co.
Fisher Governor Co.
Metric Metal Works.
National Gas Products Co.
Smith Separator Co.

**Rental Service—**
Bridgeport Machine Co.

**Reversible Clutches—**
Bessemer Gas Engine Co.

**Rig Irons—**
International Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

**Rigs—Drilling, All Steel—**
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

**Rigs—Portable Drilling—**
National Supply Co.
National Turnbuckle Derrick Co.
Star Drilling Machine Co.

**Rod Guides—**
Meier, E. C., Lubricating Co.

**Rods—Polish—**
Jones, S. M., Co.

**Rods—Pull—**
Axelson Machine Co.
Columbus Sucker Rod Co.
Jones, S. M., Co.
Sheffield Steel Corp.

**Rods—Sucker—**
Axelson Machine Co.
Columbus Sucker Rod Co.
D & B Pump & Supply Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Sheffield Steel Corp.

**Rods—Valve—**
Jones, S. M., Co.

**Roofing—Asbestos—**
Johns-Manville, Inc.

**Rope Socket Metal—**
Eagle-Picher Lead Co.

**Rope—Manila—**
Ajax Rope Co., Inc.
Bovaird Supply Co.
Republic Supply Co.

**Rope—Wire—**
Ajax Rope Co., Inc.
American Cable Co.
Bovaird Supply Co.
Bridgeport Machine Co.
Broderick & Bascom Rope Co.
International Supply Co.
Jarecki Mfg. Co.
Wickwire-Spencer Steel Corp.
Leschen, A. & Sons, Rope Co.
Williamsport Wire Rope Co.

**Rotary Bit Steel—**
Andrews Steel Co.
Heppenstall Forge & Knife Co.

**Rotary Drilling Equipment—**
Emsco Derrick & Equipment Co.
Frick-Reid Supply Co.
International Derrick & Equipment Co.
Link-Belt Co.
Lucey Mfg. Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Titusville Iron Works Co.

**Rotary Lines (See Rope—Wire)—**

**Rotary Post—**
Reed Roller Bit Co.

**Rotary Tool Joints—**
Bartlesville Supply Co.
Hughes Tool Co.

**Rust Preventatives—**
Dearborn Chemical Co.
Eagle-Picher Lead Co.

## S

**Sand Lines—Manila—**
Ajax Rope Co., Inc.
Plymouth Cordage Co.

**Sand Lines—Wire—**
Ajax Rope Co., Inc.
Broderick & Bascom Rope Co.
Hazard Mfg. Co.
Wickwire-Spencer Steel Corp.

**Screens—Oil Well—**
Layne & Bowler Co.

**Screens—Water Well—**
Layne & Bowler Co.

**Screws Temper—**
Burns Tool Co.

**Separators—Centrifugal—**
Miller, Max B., & Co.
Sharples Specialty Co.

**Separators—Gas and Oil—**
Smith Separator Co.

**Separators—Steam—**
Volz Engineering Equipment Co.

**Sheet Lead—Chemical and Antimonial—**
Eagle-Picher Lead Co.

**Sheets—Corrugated, Black and Galvanized—**
American Sheet & Tin Plate Co.
Ryerson, Jos. T., & Son, Inc.
United Alloy Steel Corp.

**Sheets—Steel—**
American Sheet & Tin Plate Co.
Republic Iron & Steel Co.
Sheffield Steel Corp.
United Alloy Steel Corp.

**Shingles—Asbestos—**
Johns-Manville, Inc.

**Sleeves—**
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

**Sleeves—Split—**
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

**Smoke Stacks—**
Donovan Boiler Works.

**Snuffers—Fire—**
Simplex Equipment Co.

**Sockets—**
Acme Fishing Tool Co.
Bridgeport Machine Co.
Spang & Co.

**Sockets—Sucker Rod—**
Gulberson Corp.

**Sockets—Swivel—**
Arbon, Paul, & Co.

**Sockets—Wire Rope—**
Chicago Steel Foundry Co.

**Soda Ash—**
Mathieson Alkali Works, Inc.

**Soda—Caustic—**
Mathieson Alkali Works, Inc.

**Solders—Bar and Wire—**
Eagle-Picher Lead Co.
Hoyt Metal Co.

**Spark Plugs—**
Mosler Metal Products Corp.

**Spears—**
Acme Fishing Tool Co.
Brown Tool Co., Inc.

**Sprockets—Power Transmission—**
Ajax Iron Works
Chain Belt Co.

**Stands—Vice—**
Nye Tool & Machine Works

**Steel—All Kinds—**
Ryerson, Jos. T., & Son, Inc.

**Steel—Alloy—**
Central Steel Co.
Timken Roller Bearing Co.
United Alloy Steel Corp.

**Steel—Bit—**
Central Steel Co.
United Alloy Steel Corp.

**Steel—Hot Rolled Strip—**
Central Steel Co.

**Steel—Special—**
Andrews Steel Co.
Central Steel Co.
United Alloy Steel Corp.

**Steel Fabricators—Structural—**
Austin Co.
Braden Co.
Graver Corp.
International Derrick & Equipment Co.

**Steel Pitmans—**
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

**Steel Plate Construction—**
Chicago Bridge & Iron Works.
Graver Corp.
Kaw Steel Construction Co.
Petroleum Iron Works Co.
Vogt, Henry, Machine Co.

**Steel Wheels and Tug Rims—**
International Derrick & Equipment Co.

**Stills—**
Blaw-Knox Co.
Chicago Bridge & Iron Works
Graver Corp.
Kaw Steel Construction Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
Newton Process Mfg. Co.
Petroleum Iron Works Co.
Smith, A. O., Corp.
Vogt, Henry, Machine Co.
Widdell Engineering Co.

**Stocks and Dies—**
Borden Co.
Nye Tool & Machine Works.
Toledo Pipe Threading Machine Co.

**Stuffing Boxes—**
Axelson Machine Co.
Kansas City Hay Press Co.

**Sulphuric Acid—**
Eagle-Picher Lead Co.

**Superheaters—Steam—**
Power Plant Equipment Co.

**Swabs—**
Arbon, Paul, & Co.
Burt Corporation.
Gulberson Corp.
Simplex Equipment Co.

**Swedge Nipples—**
Dresser, S. R., Mfg. Co.
Harrisburg Pipe & Pipe Bending Co.

**Swing Line Equipment—**
Brooks Engineering Corp.

**Swivels—**
Layne & Bowler Co.
Lucey Mfg. Corp.
Titusville Iron Works Co.

## T

**Tachometers—**
Brown Instrument Co.

**Tank Equipment—**
Brooks Engineering Corp.
Oil Conservation Engineering Co.

**Tanks—Bolted—**
Butler Mfg. Co.
Columbian Steel Tank Co.
Maloney Tank Mfg. Co.
Parkersburg Rig & Reel Co.

**Tanks—Bulk Station—**
Butler Mfg. Co.
Graver Corp.

**Tanks—Cylindrical—**
Graver Corp.
Petroleum Iron Works Co.

**Tanks—Elevated Steel—**
Chicago Bridge & Iron Works
Graver Corp.

**Tanks—Field Storage—**
American Car & Foundry Co.
Donovan Boiler Works.
Graver Corp.
Kaw Steel Construction Co.
Kewanee Boiler Co.
Maloney Tank Mfg. Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Riter-Conley Co.
United Iron Works, Inc.

**Tanks—Horizontal Storage—**
Graver Corp.
Kaw Steel Construction Co.
Maloney Tank Mfg. Co.

**Tanks—Run Down—**
Donovan Boiler Works.
Graver Corp.
Kaw Steel Construction Co.
Newton Process Mfg. Co.

**Tanks—Trucks—**
Butler Mfg. Co.
Columbian Steel Tank Co.
White Co.

**Tanks—Underground—**
Butler Mfg. Co.
Gilbert & Barker Mfg Co.
Graver Corp.
Kewanee Boiler Co.
Pittsburgh-Des Moines Steel Co.

**Tanks—welded—**
Chicago Bridge & Iron Works.
Graver Corp.

**Taper Taps—**
Hughes Tool Co.

**Tapes—Measuring for Oil Gauging—**
Lufkin Rule Co.
States Engineering Co.

**Thermometers—Indicating and Recording—**
American Schaeffer & Budenberg Corp.
Bristol Co.
Brown Instrument Co.
Taylor Instrument Co.

**Thermometers—Resistance—**
Brown Instrument Co.

**Threading Machines—**
Bignall & Keeler Machine Wks.
Cox & Sons Co., The
Landis Machine Co.

**Thread Protectors—**
Spang & Co.

**Tightener—Belt—**
Victor Balata & Textile Belting Co.

**Tires—Automobile—**
Continental Supply Co.

**Tires—Pneumatic & Solid—**
Kelly-Springfield Tire Co.

**Tires—Truck—**
Kelly-Springfield Tire Co.

**Tongs—**
Bridgeport Machine Co.
Wilson Oil Tools Corp.

**Tongs—Back Up—**
Williams, J. H., & Co.

**Tongs—Break Out—**
Reed Roller Bit Co.
Williams, J. H., & Co.

**Tongs—Casing —**
Dunn Mfg. Co.
Gulberson Corp.

**Tongs—Chain Pipe—**
Armstrong Bros. Tool Co.
Williams, J. H., & Co.

**Tongs—Pipe—**
National Transit Pump & Machine Co.

**Tongs—Rotary—**
Dunn Mfg. Co.

**Tongs—Tool Joint—**
Guiberson Corp.
Hughes Tool Co.
Reed Roller Bit Co.

**Tongs—Tubing—**
Dunn Mfg. Co.

**Tool Chests—Pipe—**
Nye Tool & Machine Works.

**Tool Joints—**
Bridgeport Machine Co.
Federal Supply Co.
Hughes Tool Co.
Lucey Mfg. Corp.
Oil Well Supply Co.
Regan Forge & Engineering Co.

**Torches—**
Oxweld Acetylene Co.

**Towers—**
Graver Corp.

**Tractors—**
Cleveland Tractor Co.
International Harvester Co. of America.

**Trailers—**
Spencer Trailer Co.

**Transmission Belt—Rubber—**
Goodrich, B. F., Rubber Co.
United States Rubber Co.

**Transmission Lining—**
Stanley Belting Corp.

**Traveling Block—**
Lucey Mfg. Corp.
Regan Forge & Engineering Co.
Wright Mfg. Co.

**Trenchers—Vertical Boom—**
Barber-Greene Co.

**Trucks—Motor—**
Ford Motor Co.
General Motors Truck Co.
Graham Brothers.
International Harvester Co. of America.
White Co.

**Tubes—Boiler, Charcoal Iron—**
Byers, A. M., Co.
Reading Iron Co.

**Tubes—Boiler Steel—**
Continental Supply Co.
National Tube Co.
Ryerson, Jos. T., & Sons, Inc.

**Tubing—**
Babcock & Wilcox Tube Co.
Byers, A. M., Co.
Central Tube Co.
Continental Supply Co.
National Tube Co.
Reading Iron Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.
Wheeling Steel Corp.

**Tubing Catchers—**
Continental Supply Co.
Dunn Mfg. Co.
Guiberson Corp.

**Tubing Protectors (See Rod Guides)—**

**Tubular Goods—**
Central Tube Co.
Continental Supply Co
Oil Well Supply Co.
Republic Iron & Steel Co.
Spang, Chalfant & Co., Inc.
Wheeling Steel Corp.

**Tubular Goods—Wrought Iron—**
Byers, A. M., Co.
Reading Iron Co.

**Turbines for Lighting Equipment**
Lucey Mfg. Corp.
Westinghouse Electric & Mfg. Co.

## U

**Underreamer Body Steel—**
Andrews Steel Co.
Heppenstall Forge & Knife Co.

**Underreamers—**
Bridgeport Machine Co.
Brown Tool Co., Inc.
Guiberson Corp.
Wilson Oil Tools Corp.

**Unions—**
Central Forging Co.
Jefferson Union Co.

## V

**Valuations—**
American Appraisal Co.

**Valves—Balata—**
Victor Balata & Textile Belting Co.

**Valves—Blow-Off—**
Homestead Valve Mfg. Co.
Merco Nordstrom Valve Co.

**Valves—Brass & Bronze—**
Homestead Valve Mfg. Co.
Lunkenheimer Co.
Reading Steel Casting Co.
Walworth Co.

**Valves—Cast Steel—**
Chapman Valve Mfg. Co.
Homestead Valve Mfg. Co.
Walworth Co.

**Valves—Check—**
Gaso Pump & Burner Mfg. Co.
Lunkenheimer Co.
Walworth Co.

**Valves—Drop Forged Steel—**
Edwards Valve & Mfg. Co.
Vogt, Henry, Machine Co.

**Valves—Gate—High and Low Pressure—**
Chapman Valve Mfg. Co.
Crane Co.
Darling Valve & Mfg. Co.
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Murray Tool & Supply Co
Powell, Wm., Co.
Walworth Co.

**Valves—Iron—**
Chapman Valve Mfg. Co.
Lunkenheimer Co.
Merco Nordstrom Valve Co.
Reading Steel Casting Co.
Walworth Co.

**Valves—Metal Pump—**
Durabla Mfg. Co.

**Valves—Pump—**
United States Rubber Co.

**Valves—Relief—Supersensitive—**
Davis, G. M., Regulator Co.

**Valves—Steel—**
Chapman Valve Mfg. Co.
Edward Valve Mfg. Co.
Kerotest Mfg. Co.
Lunkenheimer Co.
Metric Metal Works.
Powell, Wm., Co.
Reading Steel Casting Co.
Walworth Co.

**Valves—Tank Vent—**
Brooks Engineering Corp.
Oil Conservation Engineering Co.

**Valves—Working Barrel—**
Atlas Ball Co.
Axelson Machine Co.
D & B Pump & Supply Co.
Hough, Charles N., Mfg. Co.
Northrup Equipment Co.
Oil Well Supply Co.

**Varnishes—**
Arco Company, The
Detroit Graphite Co.
Sherwin-Williams Co.

**Vises—Bench—**
Nye Tool & Machine Works.

**Vises—Pipe—**
Nye Tool & Machine Works.

**Vises—Post—**
Nye Tool & Machine Works.

## W

**Wagons—Truss Wheel—**
Athey Truss Wheel Co.

**Walking Beams—Steel—**
Emsco Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

**Water Cooling Systems —**
Power Plant Equipment Co.

**Water Softeners and Filters—**
Butler Mfg. Co.
Graver Corp.

**Wax—**
Barnsdall Refining Co.
Gulf Refining Co.
Pure Oil Co.

**Weight Indicators—**
Hughes Tool Co.

**Welding Accessories—Electric—**
Wilson Welder & Metals Co.

**Welding and Cutting Apparatus—**
Oxweld Acetylene Co.

**Welding Machines—Electric—**
Wilson Welder & Metals Co.

**Welding Supplies—**
Oxweld Acetylene Co.

**Welding Wire—**
Frick-Reid Supply Co.
Oxweld Acetylene Co.
Wilson Welder & Metals Co.

**Well Shooting—**
Eastern Torpedo Co.
Zero Hour Torpedo Co.

**Wheels—Pipe Cutter—**
Nye Tool & Machine Works.

**Wheels—Steel Automotive—**
Budd Wheel Co.

**Winches—**
Braden Co.
Brooks Engineering Co.
Oil Conservation Engineering Co.

**Wire Lines (See Cables—Steel)—**

**Wood Patterns and Models—**
Gaso Pump & Burner Mfg. Co.

**Working Barrels—**
Axelson Machine Co.
D & B Pump & Supply Co.
D. & N. Specialty Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hough, Charles N., Mfg. Co.
McGregor Working Barrel Co.
Norris, W. C.
Northrup Equipment Co.
Oil Well Supply Co.

**Wrenches—Closet Spuds—**
Nye Tool & Machine Works.

**Wrenches—Drop Forged—**
Williams, J. H., & Co.

**Wrenches—Pipe—**
Trimont Mfg. Co.
Walworth Co.

**Wrenches—Ratchet—**
Dresser, S. R., Mfg. Co.
Nye Tool & Machine Works.

## Z

**Zinc Oxide—**
Eagle-Picher Lead Co.

# Oklahoma-Kansas and Eastern Pipe Line Report

## OKLAHOMA-KANSAS

### Pipe Line Statement for May Runs

| | Month | Daily Av. |
|---|---|---|
| *Prairie Pipe Line Co. | 3,875,000 | 125,000 |
| Gulf Pipe Line Co. | 1,068,009 | 34,451 |
| Texas Pipe Line Co. | 473,755 | 15,282 |
| Magnolia Petroleum Co. | 1,199,767 | 38,702 |
| Empire Pipe Line Co. | 828,872 | 26,738 |
| Cosden Pipe Line Co. | 913,699 | 29,484 |
| Sinclair Pipe Line Co. | 1,755,344 | 56,624 |
| *Other lines | 7,750,000 | 250,000 |
| Total May | 17,864,437 | 576,281 |
| Total April | 17,796,296 | 593,210 |
| Difference | 68,141 | 16,929 |

### Shipments

| | | |
|---|---|---|
| †Prairie Pipe Line Co. | 4,542,260 | 146,525 |
| Gulf Pipe Line Co. | 1,113,474 | 35,918 |
| Texas Pipe Line Co. | 773,802 | 24,961 |
| Magnolia Petroleum Co. | 1,476,204 | 47,619 |
| Empire Pipe Line Co. | 790,792 | 25,509 |
| Cosden Pipe Line Co. | 913,280 | 29,461 |
| †Sinclair Pipe Line | 2,830,468 | 91,305 |
| *Other lines | 8,835,000 | 285,000 |
| Total May | 21,275,280 | 686,298 |
| Total April | 20,718,297 | 690,608 |
| Difference | 456,983 | 4,310 |

### Stocks

| | |
|---|---|
| *Prairie Oil & Gas Co. | 27,250,000 |
| *Prairie Pipe Line Co. | 2,000,000 |
| Gulf Pipe Line and Gypsy Oil Co. | 6,200,446 |
| The Texas Company | 3,301,196 |
| Magnolia Petroleum Co. | 4,593,255 |
| Empire Pipe Line Co. | 2,840,238 |
| Cosden Pipe Line Co. | 1,956,281 |
| *Sinclair Crude Oil Purchasing Co. | 19,400,000 |
| Carter Oil Co. | 13,382,355 |
| *Other lines | 9,600,000 |
| Total May | 90,623,771 |
| Total April | 92,616,769 |
| Difference | 1,992,898 |

*Estimated. †Prairie shipments include Texas crude oil. Sinclair shipments include Texas and Wyoming crude oil.

Note: Stocks do not include 5,500,000 bbls. of crude oil held in storage on private tank farms and leases.

## EASTERN PIPE LINES

### Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for April and May:

| | April, 1926 | May, 1926 |
|---|---|---|
| Nat. Transit | 175,931.37 | 174,995.11 |
| S. W. Pa. Pipe | 89,773.16 | 91,188.06 |
| Eureka P. L. | 372,871.02 | 370,755.39 |
| Buckeye P. L. (Macksburg) | 304,514.55 | 294,855.09 |
| Buckeye P. L. (Cleveland) | 12,060.87 | 11,845.40 |
| Buckeye P. L. (Lima, etc.) | 127,204.85 | 123,401.39 |
| Indiana P. L. | 9,095.76 | 10,520.15 |
| Cumberland P. L. | 273,842.36 | 268,122.06 |
| N. Y. Transit | 20,181.07 | 19,652.92 |
| Tidewater P. L. | 160,027.79 | 159,613.39 |
| Pure Oil | 171,766.80 | 172,006.54 |
| Emery P. L. | 48,703.74 | 49,842.97 |
| Indian Ref. | 93,143.14 | 97,979.63 |
| Paragon Dev. | 24,723.50 | 23,308.37 |
| Pittsburgh P. L. | 6,733.43 | |
| Total | 1,890,573.41 | 1,877,987.48 |
| Daily average | 63,019.11 | 60,580.24 |

Note: Indian Refining Co. also reported other receipts of 283,329.87 bbls. Paragon Refining Co. had other receipts of 140,751.80 bbls. Paragon Development had other receipts of 2,113.44 bbls. Pure Oil had other receipts of 59,553.74 bbls.

### Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for April and May:

| | April, 1926 | May, 1926 |
|---|---|---|
| Nat. Transit | 314,763.21 | 345,085.14 |
| S. W. Pa. P. L. | 409,564.76 | 393,148.52 |
| Eureka P. L. | 163,392.74 | 192,968.03 |
| Buckeye P. L. (Macksburg) | 94,254.91 | 114,603.45 |
| Buckeye P. L. (Cleveland) | 1,162.42 | 969.91 |
| Buckeye P. L. (Lima, etc.) | 823,641.06 | 910,244.94 |
| Indiana P. L. | 963,616.70 | 996,006.17 |
| Cumberland P. L. | 162,112.44 | 144,932.35 |
| N. Y. Transit | 668,407.25 | 690,213.42 |
| Northern Pipe | 133,960.98 | 161,237.60 |
| Tidewater P. L. | 93,030.34 | 159,830.90 |
| Pure Oil | 205,777.75 | 244,274.44 |
| Emery P. L. | 45,829.05 | 49,935.36 |
| Paragon Ref. | 170,282.16 | 140,751.80 |
| Indian Ref. | 288,296.97 | 419,340.15 |
| Paragon Dev. | 26,494.22 | 27,092.55 |
| Pittsburgh P. L. | 6,539.32 | |
| Total | 4,571,126.27 | 4,990,634.73 |
| Daily average | 152,370.87 | 154,536.60 |

### Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky, at the close of April and May, were as follows:

| | April, 1926 | May, 1926 |
|---|---|---|
| Nat. Transit | 1,069,233.29 | 1,062,711.06 |
| S. W. Pa. P. L. | 688,704.11 | 592,119.25 |
| Eureka P. L. | 1,621,601.25 | 1,489,308.65 |
| Buckeye P. L. (Macksburg) | 417,370.13 | 454,767.17 |
| Buckeye P. L. (Cleveland) | 73,536.91 | 80,869.73 |
| Buckeye P. L. (Lima, etc.) | 2,369,543.33 | 2,231,309.46 |
| Indiana P. L. | 544,568.51 | 566,868.09 |
| Cumberland P. L. | 599,474.86 | 598,818.89 |
| Southern P. L. | 481,210.52 | 447,896.85 |
| N. Y. Transit | 695,608.61 | 735,622.34 |
| Northern P. L. | 436,138.52 | 442,189.21 |
| Pure Oil | 460,634.48 | 450,527.03 |
| Emery P. L. | 34,514.24 | 35,299.99 |
| Paragon Ref. | 72,985.28 | 45,985.57 |
| Indian Ref. | 231,194.41 | 193,356.41 |
| Paragon Dev. | 4,918.23 | 4,107.65 |
| Pittsburgh P. L. | 4,614.59 | |
| Total | 9,805,851.27 | 9,531,757.40 |
| Decrease | *367,558.84 | 274,093.87 |

*Increase.

### Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of April and May showing the gross stocks of the above fields:

| | April, 1926 | May, 1926 |
|---|---|---|
| Pennsylvania | 4,076,568.47 | 3,824,110.70 |
| Lima | 947,707.33 | 953,292.28 |
| Kentucky | 1,163,245.60 | 1,167,315.61 |
| Mid-Continent | 3,459,618.16 | 3,479,821.87 |
| Illinois | 158,711.71 | 107,216.94 |
| Total | 9,805,851.27 | 9,531,757.40 |

### Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

| | 1923 | 1924 | 1925 | 1926 |
|---|---|---|---|---|
| January | 76,790 | 62,638 | 56,831 | 55,630 |
| February | 71,092 | 62,023 | 60,606 | 60,394 |
| March | 76,592 | 68,721 | 60,575 | 61,644 |
| April | 75,614 | 71,058 | 63,062 | 63,019 |
| May | 77,365 | 63,942 | 59,217 | 60,580 |
| June | 77,593 | 63,230 | 61,270 | ..... |
| July | 71,879 | 64,208 | 62,639 | ..... |
| August | 76,910 | 59,942 | 59,686 | ..... |
| September | 72,358 | 62,930 | 62,610 | ..... |
| October | 76,256 | 64,976 | 60,995 | ..... |
| November | 70,762 | 56,282 | 59,350 | ..... |
| December | 69,271 | 55,814 | 57,974 | ..... |

### Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

| | 1923 | 1924 | 1925 | 1926 |
|---|---|---|---|---|
| January | 171,067 | 145,518 | 157,889 | 156,056 |
| February | 164,219 | 148,732 | 160,863 | 159,488 |
| March | 185,487 | 147,098 | 154,591 | 150,239 |
| April | 170,751 | 147,611 | 151,429 | 152,371 |
| May | 177,102 | 134,997 | 146,995 | 154,537 |
| June | 173,598 | 143,010 | 149,467 | ..... |
| July | 168,330 | 124,187 | 161,338 | ..... |
| August | 142,776 | 123,120 | 161,730 | ..... |
| September | 137,266 | 127,325 | 156,719 | ..... |
| October | 134,597 | 123,170 | 145,388 | ..... |
| November | 131,426 | 124,400 | 143,582 | ..... |
| December | 139,909 | 151,392 | 150,162 | ..... |

### Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

| | 1924 | 1925 | 1926 |
|---|---|---|---|
| January | 12,907,202 | 11,353,276 | 9,859,170 |
| February | 11,844,068 | 11,192,924 | 9,579,354 |
| March | 10,906,752 | 11,158,297 | 9,438,292 |
| April | 10,922,742 | 11,062,082 | 9,805,851 |
| May | 11,335,309 | 11,207,562 | 9,531,767 |
| June | 11,544,204 | 11,093,783 | ..... |
| July | 12,062,361 | 11,067,453 | ..... |
| August | 12,221,676 | 10,974,481 | ..... |
| September | 12,206,836 | 10,781,753 | ..... |
| October | 12,664,061 | 11,086,850 | ..... |
| November | 12,268,530 | 11,068,158 | ..... |
| December | 11,583,680 | 10,458,445 | ..... |

### Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

| | Receipts | Shipmts. | Stocks |
|---|---|---|---|
| 1925— | | | |
| May | 2,814.99 | 5,719.90 | 10,264.13 |
| June | 3,052.75 | 1,221.83 | 12,085.05 |
| July | 2,639.34 | 3,174.10 | 11,550.29 |
| August | 3,216.97 | 1,577.99 | 13,189.27 |
| September | 2,929.99 | 5,352.05 | 10,767.21 |
| October | 2,869.75 | 1,499.34 | 12,137.62 |
| November | 2,759.66 | 2,571.32 | 12,283.40 |
| December | 2,661.87 | 3,441.67 | 11,503.60 |
| 1926— | | | |
| January | 2,990.16 | 1,478.35 | 13,015.41 |
| February | 2,580.23 | 2,776.19 | 12,819.45 |
| March | 2,754.62 | 1,732.77 | 13,841.30 |
| April | 3,137.40 | 4,519.68 | 12,459.02 |
| May | 2,933.29 | 2,096.35 | 13,295.96 |

### The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

| | |
|---|---|
| Gross stocks June 1 | 2,839,930.90 |
| Runs from wells | 654,235.77 |
| Other receipts | 344,229.50 |
| Regular deliveries | 455,231.12 |
| Other deliveries | 418,247.09 |

The amount of Illinois oil run by the Tidewater Pipe Co. in May was 28,180.90 bbls. and deliveries were 43,225.78 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

| | |
|---|---|
| 1925— | |
| May | 692,671.94 |
| June | 700,090.46 |
| July | 724,481.26 |
| August | 673,652.38 |
| September | 706,434.87 |
| October | 706,532.00 |
| November | 664,556.30 |
| December | 665,086.89 |
| 1926— | |
| January | 665,243.62 |
| February | 632,611.99 |
| March | 753,300.74 |
| April | 610,957.04 |
| May | 682,416.67 |

The Tidewater Pipe Co., Ltd., also delivered in May 214,131.72 bbls. of Oklahoma oil.

## AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

| Average bbls. per day— | ATLANTIC PORTS | | | | | | GULF COAST PORTS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Baltimore | Boston | New York | Philadelphia | Others | Total | Galveston | New Orleans Baton Rouge | Port Arthur Sabine Pass | Tampa | Total | Total All Ports |
| February | 13,111 | 9,464 | 28,214 | 24,283 | 20,167 | 95,289 | ..... | ..... | ..... | ..... | ..... | 95,289 |
| March | 7,000 | 2,516 | 48,839 | 16,512 | 16,903 | 91,870 | ..... | ..... | ..... | ..... | ..... | 91,870 |
| April | 19,033 | 5,133 | 36,833 | 13,400 | 33,867 | 88,767 | ..... | ..... | 4,700 | ..... | ..... | 93,467 |
| May | 27,065 | 7,903 | 15,387 | 13,452 | 17,742 | 81,549 | ..... | ..... | 4,032 | ..... | ..... | 85,571 |

## AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

| Average bbls. per day— | ATLANTIC PORTS | | | | | | GULF COAST PORTS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Baltimore | Boston | New York | Philadelphia | Others | Total | Galveston | New Orleans Baton Rouge | Port Arthur Sabine Pass | Tampa | Total | Total All Ports |
| February | 14,642 | 16,071 | 40,107 | 9,464 | 36,750 | 121,035 | 23,321 | 59,259 | 6,286 | 6,714 | 85,571 | 206,606 |
| March | 28,387 | 15,935 | 81,742 | 16,290 | 34,258 | 176,612 | 19,355 | 44,097 | 7,096 | 5,294 | 75,842 | 252,454 |
| April | 16,200 | 14,000 | 76,833 | 10,633 | 29,333 | 156,999 | 19,200 | 24,900 | 2,000 | 4,433 | 50,533 | 206,532 |
| May | 12,387 | 12,258 | 75,516 | 11,645 | 21,548 | 133,355 | 12,710 | 45,226 | 1,936 | 5,677 | 65,549 | 198,904 |

## GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

| | | California | Oklahoma | Texas | Kansas | Arkansas | Louisiana | Rocky Mountains | Eastern Fields | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| June: | Month | 19,288,135 | 13,832,970 | 12,602,540 | 3,229,440 | 2,200,372 | 1,830,965 | 2,754,498 | 3,389,000 | 66,127,920 |
| | Daily average | 642,938 | 461,099 | 420,085 | 107,648 | 306,672 | 61,032 | 91,816 | 109,000 | 2,204,264 |
| July: | Month | 20,411,049 | 14,263,565 | 12,337,598 | 3,686,675 | 7,835,819 | 1,898,178 | 3,129,199 | 3,348,000 | 66,910,083 |
| | Daily average | 658,421 | 460,115 | 397,984 | 118,925 | 252,768 | 61,231 | 100,942 | 108,000 | 2,158,390 |
| August: | Month | 21,005,580 | 14,441,040 | 11,936,079 | 3,558,087 | 7,450,530 | 1,858,543 | 3,250,448 | 3,177,000 | 66,677,357 |
| | Daily average | 677,599 | 465,450 | 385,032 | 114,777 | 240,341 | 56,727 | 104,853 | 102,484 | 2,150,883 |
| September: | Month | 20,062,763 | 14,825,040 | 11,264,890 | 3,393,270 | 6,457,950 | 1,776,570 | 3,235,625 | 3,212,000 | 64,228,108 |
| | Daily average | 668,759 | 494,168 | 375,496 | 113,109 | 215,265 | 56,219 | 107,854 | 107,067 | 2,140,937 |
| October: | Month | 20,015,076 | 14,221,199 | 11,196,511 | 3,477,146 | 6,409,281 | 1,871,230 | 3,394,990 | 3,248,000 | 64,534,033 |
| | Daily average | 645,648 | 481,329 | 361,178 | 112,166 | 206,751 | 60,382 | 109,500 | 104,774 | 2,081,743 |
| November: | Month | 19,095,907 | 14,590,980 | 10,650,087 | 3,221,760 | 5,927,955 | 1,758,882 | 3,088,121 | 2,992,000 | 61,325,693 |
| | Daily average | 636,530 | 486,366 | 355,003 | 107,397 | 197,599 | 58,629 | 102,937 | 99,753 | 2,044,190 |
| December: | Month | 19,249,711 | 14,123,843 | 10,920,455 | 3,308,816 | 6,047,883 | 1,763,966 | 3,187,164 | 3,086,900 | 61,688,743 |
| | Daily average | 620,959 | 455,608 | 352,595 | 106,736 | 195,093 | 56,902 | 102,812 | 99,552 | 1,990,383 |
| January: | Month | 19,069,563 | 13,674,313 | 10,880,814 | 3,250,526 | 5,489,620 | 1,606,952 | 3,136,280 | 3,014,000 | 60,123,578 |
| | Daily average | 615,147 | 441,133 | 350,994 | 104,856 | 177,084 | 51,825 | 104,396 | 97,226 | 1,939,438 |
| February: | Month | 17,163,963 | 12,287,620 | 9,689,120 | 2,877,812 | 4,756,836 | 1,583,904 | 2,769,605 | 2,931,000 | 54,159,860 |
| | Daily average | 612,999 | 442,415 | 346,040 | 102,779 | 169,887 | 56,568 | 98,914 | 104,678 | 1,934,281 |
| March: | Month | 18,835,786 | 14,212,886 | 10,974,341 | 3,324,887 | 5,115,837 | 1,889,946 | 3,151,250 | 3,327,000 | 60,931,933 |
| | Daily average | 607,383 | 461,706 | 354,011 | 107,577 | 165,027 | 60,966 | 101,653 | 107,323 | 1,965,546 |
| April: | Month | 18,091,771 | 14,468,190 | 10,778,760 | 3,330,120 | 5,127,510 | 1,959,570 | 3,231,404 | 3,183,000 | 60,170,325 |
| | Daily average | 603,059 | 485,273 | 359,292 | 111,004 | 170,917 | 65,319 | 104,239 | 106,100 | 2,005,678 |
| May: | Month | 18,667,144 | 14,507,008 | 12,183,597 | 3,516,640 | 5,482,939 | 1,996,328 | 3,459,489 | 3,317,000 | 63,129,156 |
| | Daily average | 602,166 | 467,968 | 392,787 | 113,440 | 176,869 | 64,398 | 111,596 | 107,000 | 2,036,424 |
| Total 12 months | | 230,947,048 | 170,349,149 | 135,423,792 | 40,185,189 | 75,302,582 | 21,795,644 | 37,788,073 | 38,224,900 | 750,015,777 |
| Daily average | | 632,733 | 466,710 | 371,034 | 110,096 | 206,308 | 59,714 | 103,529 | 104,726 | 2,054,838 |

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| 1926 |
|---|
| 9,859,170 |
| 9,579,354 |
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| 9,806,851 |
| 9,531,767 |
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| s. Stocks |
|---|
| 10,264.13 |
| 12,085.05 |
| 11,550.29 |
| 13,189.27 |
| 10,767.21 |
| 12,137.62 |
| 12,283.40 |
| 11,503.60 |
| 13,015.41 |
| 12,819.45 |
| 13,841.30 |
| 12,469.02 |
| 13,295.96 |

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|---|
| 839,930.90 |
| 654,235.77 |
| 344,229.50 |
| 455,231.12 |
| 418,247.09 |
| n by the |
| 28,180.90 |
| 5.78 bbls. |
| he Illinois |
| deliveries |
| 568,873.62 |
| 589,535.24 |
| 564,713.19 |
| 650,649.97 |
| 510,697.61 |
| 633,682.32 |
| 488,449.19 |
| 578,938.47 |
| 516,083.76 |
| 506,310.51 |
| 524,625.95 |
| 487,604.00 |
| 498,456.90 |
| also de- |
| Oklahoma |

| Total All Ports |
|---|
| 95,289 |
| 91,870 |
| 92,467 |
| 85,571 |

| Total All Ports |
|---|
| 206,606 |
| 252,454 |
| 206,533 |
| 198,904 |

| Total |
|---|
| 66,127,920 |
| 2,204,264 |
| 66,910,083 |
| 2,168,390 |
| 66,677,357 |
| 2,160,883 |
| 64,228,103 |
| 2,140,937 |
| 64,534,033 |
| 2,081,743 |
| 61,325,693 |
| 2,044,190 |
| 61,698,743 |
| 1,990,283 |
| 60,123,573 |
| 1,939,438 |
| 54,159,360 |
| 1,924,281 |
| 60,931,923 |
| 1,965,546 |
| 60,170,225 |
| 2,005,674 |
| 63,129,155 |
| 2,036,424 |
| 750,015,777 |
| 2,054,838 |

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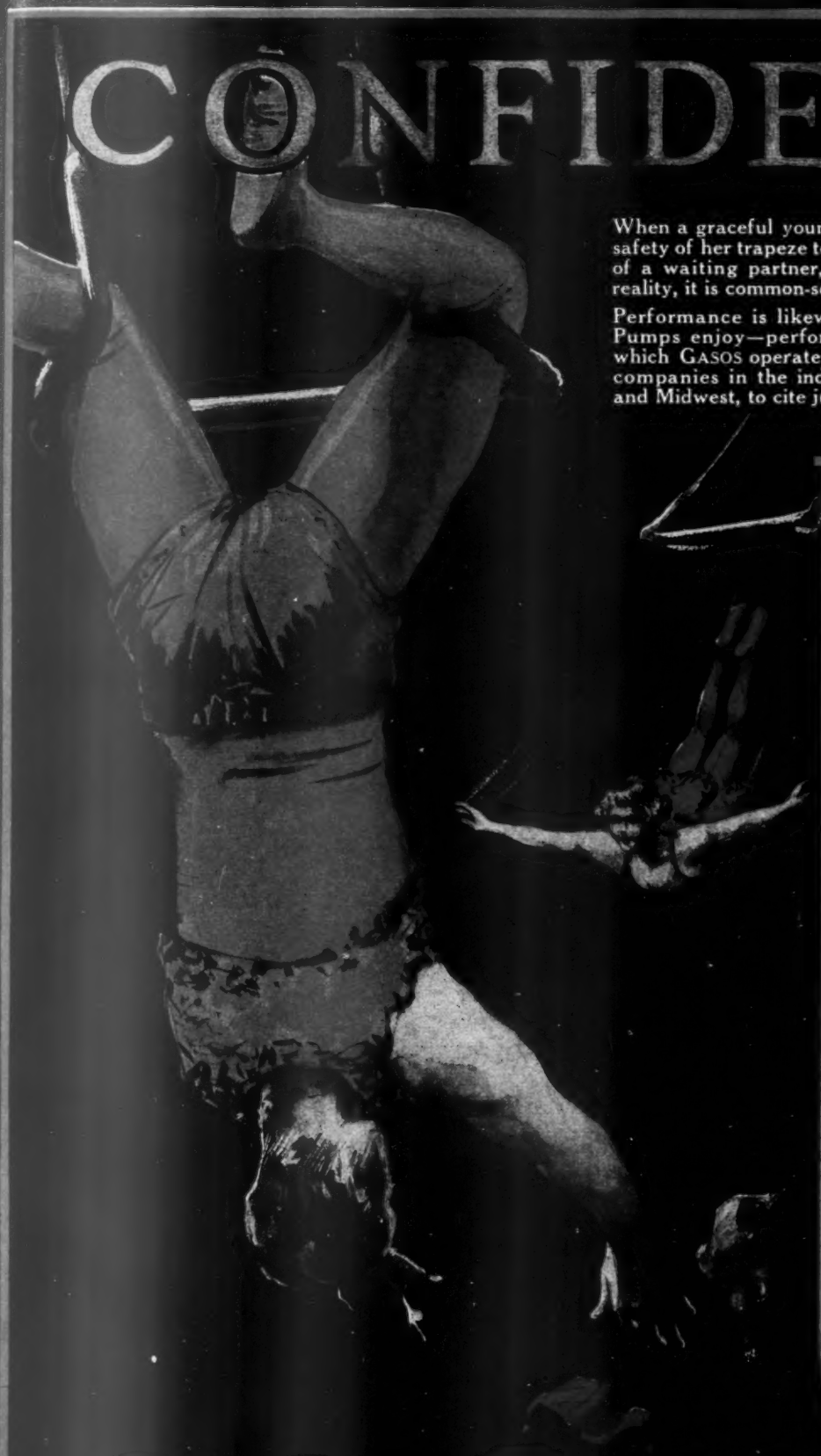
# CONFIDENCE



When a graceful young lady, with much to live for, leaves the safety of her trapeze to hurl herself through space to the hands of a waiting partner, it may look like sheer recklessness. In reality, it is common-sense confidence—based on performance.

Performance is likewise the basis of the confidence GASO Pumps enjoy—performance exemplified by the manner in which GASOS operate year after year for many of the biggest companies in the industry: Prairie, Sinclair, Texas, Standard and Midwest, to cite just a few.

## SMALL PUMPS *with* BIG IDEAS *of* DURABILITY *and* EFFICIENCY

Gaso Walking Beam Pump for Gas or Vacuum. Designed to stand world of abuse.

Gaso Walking Beam Pump for Oil or Water; especially adapted for use where no pumping power is available.

Gaso Rodline Pump for general service; used in connection with rod or shackle line between power and well.

GASO PUMP & BURNER MANUFACTURING CO.
TULSA. OKLAHOMA

# GASO PUMPS
## *for every oil industry need*

# BRIDGEPORT
## Field Proven Tools

# Can you afford to use ordinary tools?

CAN you afford to gamble on ordinary tools and ordinary service in drilling a $50,000 hole? Bridgeport tools have been proven in oil field service where only the best endures and they have made good.

Frequent delays in drilling because of defective tools increase your drilling costs and delays the bringing in of the well.

The quicker a well is drilled, the sooner your investment becomes productive.

You can depend on Bridgeport tools — from one end of the string to the other.

And Bridgeport Service is just as dependable as Bridgeport tools.

Carried in stock at the Bridgeport branches as follows:

| | | |
|---|---|---|
| WICHITA, KANS* | STROUD, OKLA. | PAWNEE, OKLA.* |
| RUSSELL, KANS.* | DEPEW, OKLA. | RANGER, TEX. |
| GORHAM, KANS. | WETUMKA, OKLA. | PANHANDLE, TEX.* |
| EL DORADO, KANS. | TONKAWA, OKLA. | BRECKENRIDGE, TEX. |
| WINFIELD, KANS. | GARBER, OKLA. | MARIETTA, OHIO |
| TULSA, OKLA. | BRAMAN, OKLA.* | |

**A complete stock of contractors' supplies carried in stock at these points.*

THE BRIDGEPORT MACHINE COMPANY

General Offices & Works — WICHITA, KANSAS